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ABSTRACT

The results of the twenty-first national survey of drug use and related attitudes among U.S. high school students are reported. This volume contains the results from the secondary school samples taken from eighth, tenth, and twelfth graders. All the data come from an ongoing national research and reporting program. Distinctions are made among important demographic subgroups in these populations. Data on grade level of first use, trends in use at lower grade levels, and intensity of drug use also are reported. Key attitudes and beliefs about drug use and perceptions of certain relevant aspects of the social environment are included as potential explanatory factors. Initially, 11 separate classes of drugs were distinguished for this series of reports. For drugs other than alcohol--cigarettes, smokeless tobacco, inhalants, and nonprescription stimulants--most of the information deals with illicit use of controlled substances. The emphasis here is on drug use at the higher frequency levels. Appendices provide data for calculating statistical accuracy. Statistics are presented in 40 tables. (RJM)

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National Institute on Drug Abuse

NATIONAL SURVEY RESULTS ON DRUG USE
from
THE MONITORING THE FUTURE STUDY, 1975-1995

Volume I
Secondary School Students

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NATIONAL SURVEY RESULTS ON DRUG USE
from
THE MONITORING THE FUTURE STUDY, 1975-1995

Volume I

Secondary School Students

by

Lloyd D. Johnston, Ph.D.
Patrick M. O'Malley, Ph.D.
Jerald G. Bachman, Ph.D.

The University of Michigan
Institute for Social Research

National Institute on Drug Abuse
5600 Fishers Lane
Rockville, Maryland 20857

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Chapter 1

INTRODUCTION

This two-volume monograph reports the results of the twenty-first national survey of drug use and related attitudes among American high school seniors, the sixteenth such survey of American college students, and the fifth such survey of eighth and tenth grade students. Volume I contains the results from the secondary school samples of eighth, tenth, and twelfth graders. The results from college students and young adults are reported in Volume II.

All of these data derive from the ongoing national research and reporting program entitled Monitoring the Future: A Continuing Study of American Youth, which is conducted at the University of Michigan's Institute for Social Research and has been funded through a series of investigator-initiated research grants from the National Institute on Drug Abuse. In the past the study was sometimes called the National High School Senior Survey, because each year, since 1975, a representative sample of all seniors in public and private high schools in the coterminous United States has been surveyed. However, the study also surveys: (a) representative samples of young adults from previous graduating classes who are administered follow-up surveys by mail; (b) representative samples of American college students one to four years past high school, who are included in these follow-up samples; and, (c) since 1991, annual surveys of eighth and tenth grade students.

SURVEYS OF SECONDARY SCHOOL STUDENTS

Two of the major topics included in this series of annual reports are (1) the prevalence of drug use among American secondary school students (specifically in eighth, tenth, and twelfth grades), and (2) trends in use by those students. Distinctions are made among important demographic subgroups in these populations. Data on grade of first use, trends in use at lower grade levels, and intensity of drug use also are reported. Key attitudes and beliefs about drug use, and perceptions of certain relevant aspects of the social environment are included as potential explanatory factors.

SURVEYS OF COLLEGE STUDENTS AND YOUNG ADULTS GENERALLY

Data on the prevalence and trends in drug use among young adults who have completed high school are included in this report series. These data are reported primarily in Volume II, although a brief summary of them is given in Chapter 2 of this volume, "Overview of Key Findings." The period of young adulthood (late teens to late twenties) is particularly important because this tends to be the period of peak use for many drugs.

The Monitoring the Future study design calls for continuing follow-up panel studies—through age 32—of a subsample of the participants in each participating senior class, beginning with the class of 1976. In 1995 representative samples of the graduating classes of 1981 through

1994, corresponding to modal ages of 19 to 32 provided survey data. Comprehensive results from this young adult population are presented in Volume II.[1]

Two chapters in Volume II present data on college students specifically. Trend data are provided since 1980, the first year that a national sample of college students one to four years past high school was available from the follow-up survey. College students have not usually been well represented in national household surveys, because many college students live on campus in group dwellings (dormitories, fraternities, and sororities), which often are not included in household surveys. (The National Household Survey on Drug Abuse, conducted in earlier years by NIDA, and now by the Substance Abuse and Mental Health Services Administration, was revised in 1991 to include such group dwellings.)

CONTENT AREAS COVERED IN THIS REPORT

Initially, eleven separate classes of drugs were distinguished for this series of reports: marijuana (including hashish), inhalants, hallucinogens, cocaine, heroin, opiates other than heroin (both natural and synthetic), stimulants (more specifically, amphetamines), sedatives, tranquilizers, alcohol, and tobacco. This particular organization of drug use classes was chosen to heighten comparability with a parallel series of publications based on the National Institute on Drug Abuse's National Household Surveys on Drug Abuse. Separate statistics also are presented for several sub-classes of drugs within these more general classes: PCP and LSD (both hallucinogens), barbiturates and methaqualone (both sedatives), the amyl and butyl nitrites (both inhalants), crystal methamphetamine ("ice"), and crack and other cocaine. A number of these drugs appeared on the American scene after the study began, and were added to the questionnaires in subsequent years. Trend data for PCP and nitrites are available since 1979 when questions about the use of these drugs were added to the study because of increasing concern over their rising popularity and possibly deleterious effects. For similar reasons, a single question about crack cocaine was added to the 1986 survey and more detailed questions on crack and other cocaine were added in 1987. MDMA or "ecstasy" was added in 1989 (to the follow-up surveys only) and crystal methamphetamine ("ice") was added in 1990. Barbiturates and methaqualone, two components of the "sedatives" class as used here, have been measured separately from the outset. Data for them are presented separately because their trend lines are substantially different. Anabolic steroids were added in 1989 because of reports of their increasing illicit use among young people. Smokeless tobacco was added in 1986, although cigarette use has been covered since the study's inception. "Getting drunk" was added in 1991 to the long-standing set of questions on alcohol use.

For drugs other than alcohol, cigarettes, smokeless tobacco, inhalants, and nonprescription stimulants, practically all of the information reported here deals with illicit use of controlled substances. Respondents are asked to exclude any occasions on which they used any of the psychotherapeutic drugs under medical supervision. (Some data on the medically supervised use of such drugs are contained in the full 1977, 1978, 1981, and 1983 volumes in this series. A separate article discussed trends in the medical use of these drugs[2].)

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[1] Older cohorts are now followed up again at age 35, with the long-term plan being to follow them at five year intervals thereafter.

Throughout this report we have chosen to focus attention on drug use at the higher frequency levels rather than simply report proportions who have ever used various drugs. This is done to help differentiate levels of seriousness, or extent, of drug involvement. While there is no public consensus on what levels or patterns of use constitute "abuse," there is surely a consensus that higher levels of use are more likely to have detrimental effects for the user and society. We have also introduced indirect measures of dosage per occasion, by asking respondents the duration and intensity of the highs they usually experience with each type of drug. Chapter 7 reports those results.

For both licit and illicit drugs, separate chapters are devoted to grade of first use; the students' own attitudes and beliefs; related attitudes, beliefs, and behaviors of others in their social environment; as well as perceived drug availability. Some of these variables have proven to be important explanators of observed secular trends in use.

Chapter 10, "Other Findings from the Study," discusses use of nonprescription stimulants including diet pills, stay-awake pills, and the "look-alike" pseudo-amphetamines. Questions on these substances were placed in the survey beginning in 1982 because the use of them appeared to be on the rise, and some respondents inappropriately included them in their answers about amphetamine use. That inappropriate inclusion affected the observed trends, until the clarification in 1982.

Chapter 10 also presents trend results from a set of questions about cumulative lifetime marijuana use at a daily or near-daily level. These questions were added to enable us to develop a more complete individual history of daily use over a period of years. They reveal some interesting facts about the frequent users of this drug. For the first time this year, a special section on the use of heroin by injection and by means other than injection has been added to Chapter 10, because new questions distinguishing these two types of use were introduced in the 1995 survey.

Another addition to this year's volume is an appendix on how to calculate confidence intervals for point estimates, and how to calculate statistics testing the significance of changes over time or differences between groups. While many tables in these volumes already contain such statistics for selected point estimates and comparisons, some readers may wish to do additional tests. Appendix C provides the necessary formulas and design effect corrections to permit them to do that.

The reader's attention is also called to Appendix D, which presents supplementary tables giving cross-time trends in the use of various drugs for a number of demographic subgroups in the population. Specifically, subgroups are differentiated on the basis of gender, college plans, region of the country, size of community, education level of the parents, and racial/ethnic group. The tables document a number of important subgroup differences in both levels and cross-time trends.

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[2] Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1987). Psychotherapeutic, licit, and illicit use of drugs among adolescents: An epidemiological perspective. *Journal of Adolescent Health Care, 8*, 36-51.

PURPOSES AND RATIONALE FOR THIS RESEARCH

Perhaps no area has proven more clearly appropriate for the application of systematic research and reporting than the drug field. It has been, and remains, a rapidly changing field. It has great importance for the well-being of the nation, and a large amount of legislative and administrative intervention is addressed to it.

Young people are often at the leading edge of social change—and this has been particularly true of drug use. The massive upsurge in illicit drug use during the last twenty-five to thirty years has proven to be a youth phenomenon, with the onset of use most likely to occur during adolescence. Young adults in their twenties are also among the age groups at highest risk for illicit drug use. Indeed, this widespread epidemic really began on the nation's college campuses, although the more recent relapse phase in the epidemic is manifesting itself first among secondary school students. From one year to the next, particular drugs rise or fall in popularity, and related problems occur for youth, for their families, for governmental agencies, and for society as a whole.

One of the major purposes of the Monitoring the Future series is to develop an accurate picture of current drug use and trends. This is a formidable task, given the illicit and illegal nature of most of the phenomena under study. A reasonably accurate picture of the basic size and contours of the illicit drug use problem among young Americans is a prerequisite for rational public debate and policy making. In the absence of reliable *prevalence* data, substantial misconceptions can develop and resources may be misallocated. In the absence of reliable data on *trends*, early detection and localization of emerging problems are more difficult. In addition, assessments of the impact of major historical and policy-induced events are much more conjectural.

The study also monitors a number of factors which we believe help to *explain* the changes observed in drug use. Many are discussed in this series of volumes. They include peer norms regarding drugs, beliefs about the dangers of drugs, perceived availability, and so on. In fact, monitoring these factors has made it possible to examine a central policy issue for the country in its war on drugs—namely the relative importance of supply reduction effects vs. demand reduction effects in bringing about some of the observed declines in drug use. We also have developed a general theory of drug epidemics which makes use of many of these concepts to explain the rises and falls in use which occur[3].

In addition to accurately assessing prevalence and trends and trying to determine the causes of them, the Monitoring the Future study has other important research objectives. Among them: helping to determine which young people are at greatest risk for developing various patterns of drug abuse; gaining a better understanding of the lifestyles and value orientations associated with various patterns of drug use, and monitoring how those orientations are shifting over time; determining the immediate and more general aspects of the social environment associated with drug use and abuse; determining how major transitions in social environment (entry into military service, civilian employment, college, homemaking, unemployment) or in social roles (marriage, pregnancy, parenthood, divorce) affect drug use; determining the life course of the various drug-using behaviors from early adolescence to middle adulthood; distinguishing such "age effects" from cohort and period effects in determining drug use; determining the effects of social legislation on various types of substance use; and, determining the changing connotations of drug use and changing patterns of multiple drug use among youth. We believe that the differentiation of period, age, and cohort effects in substance use of various types has been a particularly important contribution of the project; and it is one that the project's cohort-sequential research design is especially well-suited to make.[4] Readers interested in publications dealing with any of these other areas should write the authors at the Institute for Social Research, The University of Michigan, Ann Arbor, Michigan, 48106-1248.

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[3] See Johnston, L.D. (1991). Toward a theory of drug epidemics. *In* R.L. Donohew, H. Sypher, & W. Bukoski (Eds.), *Persuasive communication and drug abuse prevention* (pp. 93-132). Hillsdale, NJ: Lawrence Erlbaum.

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[4] For an elaboration and discussion of the full range of objectives of this research in the domain of substance abuse see Johnston, L.D., O'Malley, P.M., Bachman, J.G., and Schulenberg, J. (1994). *The aims and objectives of the Monitoring the Future study and progress toward fulfilling them.* (Monitoring the Future Occasional Paper 34). Ann Arbor, MI: Institute for Social Research.

Chapter 2

OVERVIEW OF KEY FINDINGS

Volumes I and II of this monograph report the findings through 1995 of the ongoing research and reporting series entitled Monitoring the Future: A Continuing Study of the Lifestyles and Values of Youth. Over its twenty-one year existence, the study has consisted of in-school surveys of nationally representative samples of (a) high school seniors each year since 1975 and (b) eighth and tenth grade students each year since 1991. In addition, beginning in 1976, follow-up surveys have been conducted by mail on representative subsamples of the respondents from each previously participating twelfth grade.

Volume I of this report presents findings on the prevalence and trends in drug use and related factors for secondary school students (eighth, tenth, and twelfth graders); Volume II presents the results for young adult high school graduates 19-32 years old, as well as college students specifically. Trend data are presented for varying time intervals, covering up to the past twenty years in the case of the high school senior population. For college students, a particularly important subset of the young adult population for which very little nationally representative data exists, we present detailed prevalence and trend results covering a fifteen year interval (since 1980). The high school dropout segment of the population—about 15%-20% of an age group—is of necessity omitted from the coverage of these populations, though this omission should have a negligible effect on the coverage of college students. Appendix A to this report discusses the likely impact of omitting dropouts from the sample coverage at senior year. Very few students will have left school by eighth grade, of course, and relatively few by the end of tenth grade, so the results of the school surveys at those levels should be generalizable to the great majority of the relevant age cohorts.

A number of important findings emerge from these five national populations—eighth grade students, tenth grade students, twelfth grade students, college students, and all young adults through age 32 who are high school graduates. They have been summarized and integrated in this chapter so that the reader may quickly get an overview of the key results. Because so many populations, drugs, and prevalence intervals are discussed here, a single integrative table (Table 1) showing the 1991-1995 trends for all drugs on all five populations is included in this chapter.

TRENDS IN ILLICIT DRUG USE

- In the previous three volumes in this series we have noted an increase in the use of a number of illicit drugs among the secondary students and some reversals among them in key attitudes and beliefs. (Beginning with the volume reporting 1992 survey results, we noted the beginning of such reversals among eighth graders, the youngest respondents surveyed in this study.) Specifically, the proportions seeing great risk in using drugs began to decline as did the proportions saying they disapproved of use. As predicted earlier, those reversals indeed presaged ". . . an end to the improvements in the drug situation that the nation may be taking for granted." The use of illicit drugs again

TABLE 1

Trends in Prevalence of Various Drugs for Five Populations: Eighth, Tenth, and Twelfth Graders, College Students, and Young Adults (Ages 19-28)

(Entries are percentages)

	Lifetime						Annual						30-Day						Daily					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Any Illicit Drug[a]																								
8th Grade	18.7	20.6	22.5	25.7	28.5	+2.8ss	11.3	12.9	15.1	18.5	21.4	+2.9sss	5.7	6.8	8.4	10.9	12.4	+1.5s	—	—	—	—	—	—
10th Grade	30.6	29.8	32.8	37.4	40.9	+3.5ss	21.4	20.4	24.7	30.0	33.3	+3.3ss	11.6	11.0	14.0	18.5	20.2	+1.7s	—	—	—	—	—	—
12th Grade	44.1	40.7	42.9	45.6	48.4	+2.8	29.4	27.1	31.0	35.8	39.0	+3.2s	16.4	14.4	18.3	21.9	23.8	+1.9	—	—	—	—	—	—
College Students	50.4	48.8	45.9	45.5	45.5	0.0	29.2	30.6	30.6	31.4	33.5	+2.1	15.2	16.1	15.1	16.0	19.0	+3.1s	—	—	—	—	—	—
Young Adults	62.2	60.2	59.6	57.5	57.3	-0.1	27.0	28.3	28.4	28.4	29.8	+1.4	15.1	14.8	14.9	15.3	15.7	+0.4	—	—	—	—	—	—
Any Illicit Drug[a] Other Than Marijuana																								
8th Grade	14.3	15.6	16.8	17.5	18.8	+1.3	8.4	9.3	10.4	11.3	12.6	+1.3s	3.8	4.7	5.3	5.6	6.5	+0.9s	—	—	—	—	—	—
10th Grade	19.1	19.2	20.9	21.7	24.3	+2.6ss	12.2	12.3	13.9	15.2	17.5	+2.3ss	5.5	5.7	6.5	7.1	8.9	+1.8sss	—	—	—	—	—	—
12th Grade	26.9	25.1	26.7	27.6	28.1	+0.5	16.2	14.9	17.1	18.0	19.4	+1.4	7.1	6.3	7.9	8.8	10.0	+1.2s	—	—	—	—	—	—
College Students	25.8	26.1	24.3	22.0	24.4	+2.4	13.2	13.1	12.5	12.2	15.9	+3.7ss	4.3	4.6	5.4	4.6	6.3	+1.7s	—	—	—	—	—	—
Young Adults	37.8	37.0	34.6	33.4	32.7	-0.7	14.3	14.1	13.0	13.0	13.7	+0.7	5.4	5.5	4.9	5.3	5.6	+0.3	—	—	—	—	—	—
Any Illicit Drug[a,b] Including Inhalants																								
8th Grade	28.5	29.6	32.3	35.1	38.1	+3.0ss	16.7	18.2	21.1	24.2	27.1	+2.9sss	8.8	10.0	12.0	14.3	16.1	+1.8ss	—	—	—	—	—	—
10th Grade	36.1	36.2	38.7	42.7	45.9	+3.2ss	23.9	23.5	27.4	32.5	35.6	+3.1ss	13.1	12.6	15.5	20.0	21.6	+1.6	—	—	—	—	—	—
12th Grade	47.6	44.4	46.6	49.1	51.5	+2.4	31.2	28.8	32.5	37.6	40.2	+2.6	17.8	15.5	19.3	23.0	24.8	+1.8	—	—	—	—	—	—
College Students	52.0	50.3	49.1	47.0	47.0	0.0	29.8	31.1	31.7	31.9	33.6	+1.7	15.1	16.5	15.7	16.4	19.6	+3.2s	—	—	—	—	—	—
Young Adults	63.4	61.2	61.2	58.5	58.9	+0.4	27.8	29.2	28.9	29.2	30.3	+1.1	15.4	15.3	15.1	16.1	16.0	-0.1	—	—	—	—	—	—
Marijuana/Hashish																								
8th Grade	10.2	11.2	12.6	16.7	19.9	+3.2sss	6.2	7.2	9.2	13.0	15.8	+2.8sss	3.2	3.7	5.1	7.8	9.1	+1.3s	0.2	0.2	0.4	0.7	0.8	+0.1
10th Grade	23.4	21.4	24.4	30.4	34.1	+3.7ss	16.5	15.2	19.2	25.2	28.7	+3.5sss	8.7	8.1	10.9	15.8	17.2	+1.4	0.8	0.8	1.0	2.2	2.8	+0.6ss
12th Grade	36.7	32.6	35.3	38.2	41.7	+3.5s	23.9	21.9	26.0	30.7	34.7	+4.0ss	13.8	11.9	15.5	19.0	21.2	+2.2s	2.0	1.9	2.4	3.6	4.6	+1.0ss
College Students	46.3	44.1	42.0	42.2	41.7	-0.5	26.5	27.7	27.9	29.3	31.2	+1.9	14.1	14.6	14.2	15.1	18.6	+3.5s	1.8	1.6	1.9	1.8	3.7	+1.8ss
Young Adults	58.6	56.4	55.9	53.7	53.6	-0.1	23.8	25.2	25.1	25.5	26.5	+1.0	13.5	13.3	13.4	14.1	14.0	-0.1	2.3	2.3	2.4	2.8	3.3	+0.5
Inhalants[b,c]																								
8th Grade	17.6	17.4	19.4	19.9	21.6	+1.7s	9.0	9.5	11.0	11.7	12.8	+1.1	4.4	4.7	5.4	5.6	6.1	+0.5	0.2	0.3	0.3	0.2	0.2	0.0
10th Grade	15.7	16.6	17.5	18.0	19.0	+1.0	7.1	7.5	8.4	9.1	9.6	+0.5	2.7	2.7	3.3	3.6	3.5	-0.1	0.1	0.1	0.2	0.1	0.1	0.0
12th Grade	17.6	16.6	17.4	17.7	17.4	-0.3	6.6	6.2	7.0	7.7	8.0	+0.3	2.4	2.3	2.5	2.7	3.2	+0.5	0.2	0.1	0.1	0.1	0.1	+0.1
College Students	14.4	14.2	14.8	12.0	13.7	+1.6	3.5	3.1	3.8	3.0	3.9	+0.9	0.9	1.1	1.3	0.6	1.6	+0.9s	—	—	—	—	—	—
Young Adults	13.4	13.5	14.1	13.2	14.4	+1.2	2.0	1.9	2.1	2.1	2.4	+0.3	0.5	0.6	0.7	0.5	0.7	+0.2	*	*	*	*	*	*
Nitrites[d]																								
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.6	1.5	1.4	1.7	1.5	-0.2	0.9	0.5	0.9	1.1	1.1	0.0	0.4	0.3	0.6	0.4	0.4	0.0	0.2	0.1	0.1	0.2	0.2	-0.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	1.4	1.2	1.3	1.0	—	—	0.2	0.1	0.4	0.3	—	—	*	0.1	0.2	0.1	—	—	*	0.0	0.2	0.0	—	—

SOURCE: The Monitoring the Future Study, the University of Michigan

(Table continued on next page)

TABLE 1 (cont.)

Trends in Prevalence of Various Drugs for Five Populations: Eighth, Tenth, and Twelfth Graders, College Students, and Young Adults (Ages 19-28)

	Lifetime						Annual						30-Day						Daily					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Hallucinogens[c]																								
8th Grade	3.2	3.8	3.9	4.3	5.2	+0.9	1.9	2.5	2.6	2.7	3.6	+0.9s	0.8	1.1	1.2	1.3	1.7	+0.4	0.1	0.1	0.1	0.1	0.1	+0.1
10th Grade	6.1	6.4	6.8	8.1	9.3	+1.2	4.0	4.3	4.7	5.8	7.2	+1.4ss	1.6	1.8	1.9	2.4	3.3	+0.9ss	*	0.1	0.1	0.1	*	0.0
12th Grade	9.6	9.2	10.9	11.4	12.7	+1.3	5.8	5.9	7.4	7.6	9.3	+1.7ss	2.2	2.1	2.7	3.1	4.4	+1.3sss	0.1	0.1	0.1	0.1	0.1	0.0
College Students	11.3	12.0	11.8	10.0	12.9	+2.9s	6.3	6.8	6.0	6.2	8.1	+1.8	1.2	2.3	2.5	2.1	3.3	+1.2s	—	—	—	—	—	—
Young Adults	15.7	15.7	15.4	15.4	15.9	+0.5	4.5	5.0	4.5	4.8	5.6	+0.8s	1.1	1.5	1.2	1.4	1.6	+0.2	0.0	0.0	*	0.0	*	*
LSD																								
8th Grade	2.7	3.2	3.5	3.7	4.4	+0.7	1.7	2.1	2.3	2.4	3.2	+0.8s	0.6	0.9	1.0	1.1	1.4	+0.3	*	*	*	*	0.1	0.0
10th Grade	5.6	5.8	6.2	7.2	8.4	+1.2	3.7	4.0	4.2	5.2	6.5	+1.3ss	1.5	1.6	1.6	2.0	3.0	+1.0sss	*	0.1	*	*	*	0.0
12th Grade	8.8	8.6	10.3	10.5	11.7	+1.2	5.2	5.6	6.8	6.9	8.4	+1.5ss	1.9	2.0	2.4	2.6	4.0	+1.4sss	0.1	0.1	0.1	0.1	0.1	0.0
College Students	9.6	10.6	10.6	9.2	11.4	+2.2s	5.1	5.7	5.1	5.2	6.8	+1.6	0.8	1.8	1.6	1.8	2.5	+0.7	—	—	—	—	—	—
Young Adults	13.5	13.8	13.6	13.8	14.3	+0.5	3.8	4.3	3.8	4.0	4.6	+0.6	0.8	1.1	0.8	1.1	1.3	+0.2	0.0	0.0	0.0	0.0	*	*
Hallucinogens Other than LSD																								
8th Grade	1.4	1.7	1.7	2.2	2.5	+0.3	0.7	1.1	1.0	1.3	1.7	+0.4s	0.3	0.4	0.5	0.7	0.8	+0.1	*	*	*	*	*	0.0
10th Grade	2.2	2.5	2.8	3.8	3.9	+0.1	1.3	1.4	1.9	2.4	2.8	+0.4	0.4	0.5	0.7	1.0	1.0	0.0	*	*	*	*	*	0.0
12th Grade	3.7	3.3	3.9	4.9	5.4	+0.5	2.0	1.7	2.2	3.1	3.8	+0.7s	0.7	0.5	0.8	1.2	1.3	+0.1	*	*	*	*	0.1	+0.1
College Students	6.0	5.7	5.4	4.4	6.4	+2.0s	3.1	2.6	2.7	2.8	3.9	+1.2	0.6	0.7	1.1	0.8	1.5	+0.7	—	—	—	—	—	—
Young Adults	8.4	8.0	7.6	7.4	7.7	+0.3	1.7	1.9	1.9	2.0	2.5	+0.4	0.3	0.5	0.6	0.6	0.6	0.0	0.0	0.0	*	0.0	*	*
PCP[d]																								
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	2.9	2.4	2.9	2.8	2.7	-0.1	1.4	1.4	1.4	1.6	1.8	+0.2	0.5	0.6	1.0	0.7	0.6	-0.1	0.1	0.1	0.1	0.3	0.3	0.0
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	3.1	2.0	1.9	2.0	2.2	+0.2	0.3	0.3	0.2	0.3	0.3	0.0	0.1	0.2	0.2	0.1	0.1	-0.1	*	0.0	0.1	0.0	0.0	0.0
Cocaine																								
8th Grade	2.3	2.9	2.9	3.6	4.2	+0.6	1.1	1.5	1.7	2.1	2.6	+0.5	0.5	0.7	0.7	1.0	1.2	+0.2	0.1	*	0.1	0.1	0.1	0.0
10th Grade	4.1	3.3	3.6	4.3	5.0	+0.7	2.2	1.9	2.1	2.8	3.5	+0.7	0.7	0.7	0.9	1.2	1.7	+0.5s	0.1	*	0.1	0.1	0.1	0.0
12th Grade	7.8	6.1	6.1	5.9	6.0	+0.1	3.5	3.1	3.3	3.6	4.0	+0.4	1.4	1.3	1.3	1.5	1.8	+0.3	0.1	0.1	0.1	0.1	0.2	+0.1
College Students	9.4	7.9	6.3	5.0	5.4	+0.4	3.6	3.0	2.7	2.0	3.6	+1.6ss	1.0	1.0	0.7	0.6	0.7	+0.2	*	0.0	0.0	0.1	0.0	-0.1
Young Adults	21.0	19.5	16.9	15.2	13.6	-1.6ss	6.2	5.7	4.7	4.3	4.3	0.0	2.0	1.8	1.4	1.3	1.4	+0.1	0.1	*	0.1	*	0.1	0.0
Crack																								
8th Grade	1.3	1.6	1.7	2.4	2.7	+0.3	0.7	0.9	1.0	1.3	1.6	+0.3s	0.3	0.5	0.4	0.7	0.7	0.0	*	*	0.1	*	*	0.0
10th Grade	1.7	1.5	1.8	2.1	2.8	+0.7ss	0.9	0.9	1.1	1.4	1.8	+0.4s	0.3	0.4	0.5	0.6	0.9	+0.3ss	*	*	*	*	*	0.0
12th Grade	3.1	2.6	2.6	3.0	3.0	0.0	1.5	1.5	1.5	1.9	2.1	+0.2	0.7	0.6	0.7	0.8	1.0	+0.2	0.1	0.1	0.1	0.1	0.1	0.0
College Students	1.5	1.7	1.3	1.0	1.7	+0.8	0.5	0.4	0.6	0.5	0.9	+0.4	0.3	0.1	0.1	0.1	0.1	-0.1	—	—	—	—	—	—
Young Adults	4.8	5.1	4.3	4.4	3.8	-0.6	1.2	1.4	1.3	1.1	1.0	-0.1	0.4	0.4	0.4	0.3	0.2	0.0	*	*	0.1	*	*	*
Other Cocaine[e]																								
8th Grade	2.0	2.4	2.4	3.0	3.4	+0.4	1.0	1.2	1.3	1.7	2.1	+0.4	0.5	0.5	0.6	0.9	1.0	+0.1	*	*	*	*	*	0.0
10th Grade	3.8	3.0	3.3	3.8	4.4	+0.6	2.1	1.7	1.8	2.4	3.0	+0.6	0.6	0.6	0.7	1.0	1.4	+0.4s	*	*	*	*	*	0.0
12th Grade	7.0	5.3	5.4	5.2	5.1	-0.1	3.2	2.6	2.9	3.0	3.4	+0.4	1.2	1.0	1.2	1.3	1.3	0.0	0.1	*	0.1	0.1	0.1	+0.1
College Students	9.0	7.6	6.3	4.6	5.2	+0.5	3.2	2.4	2.5	1.8	3.2	+1.4s	1.0	0.9	0.6	0.3	0.8	+0.5	—	—	—	—	—	—
Young Adults	19.8	18.4	15.1	13.9	12.3	-1.6s	5.4	5.1	3.9	3.6	3.8	+0.3	1.8	1.7	1.1	1.0	1.3	+0.3	0.1	*	*	*	0.1	*

SOURCE: The Monitoring the Future Study, the University of Michigan.

(Table continued on next page)

BEST COPY AVAILABLE

TABLE 1 (cont.)

Trends in Prevalence of Various Drugs for Five Populations: Eighth, Tenth, and Twelfth Graders, College Students, and Young Adults (Ages 19-28)

	Lifetime						Annual						30-Day						Daily					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
MDMA (Ecstasy)[f]																								
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
College Students	2.0	2.9	2.3	2.1	3.0	+0.9	0.9	2.0	0.8	0.5	2.3	+1.9s	0.2	0.4	0.3	0.2	0.7	+0.5	—	—	—	—	—	—
Young Adults	3.2	3.9	3.8	3.8	4.4	+0.6	0.8	1.0	0.8	0.7	1.6	+0.9ss	0.1	0.3	0.3	0.2	0.4	+0.3	0.0	0.0	*	0.0	0.0	0.0
Heroin[g]																								
8th Grade	1.2	1.4	1.4	2.0	2.3	+0.3	0.7	0.7	0.7	1.2	1.4	+0.2	0.3	0.4	0.4	0.6	0.6	0.0	*	*	*	0.1	*	0.0
10th Grade	1.2	1.2	1.3	1.5	1.7	+0.2	0.5	0.6	0.7	0.9	1.1	+0.2	0.2	0.2	0.3	0.4	0.6	+0.2s	*	*	*	*	*	0.0
12th Grade	0.9	1.2	1.1	1.2	1.6	+0.4s	0.4	0.6	0.5	0.6	1.1	+0.6sss	0.2	0.3	0.2	0.3	0.6	+0.3sss	*	*	*	*	0.1	0.0
College Students	0.5	0.5	0.6	0.1	0.6	+0.5s	0.1	0.1	0.1	0.1	0.3	+0.2	0.1	0.0	*	0.0	0.1	+0.1	—	—	—	—	—	—
Young Adults	0.9	0.9	0.9	0.8	1.1	+0.3	0.1	0.2	0.2	0.1	0.4	+0.2s	*	0.1	0.1	0.1	0.1	0.0	0.0	*	*	*	0.0	*
Other Opiates[h]																								
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	6.6	6.1	6.4	6.6	7.2	+0.6	3.5	3.3	3.6	3.8	4.7	+0.9ss	1.1	1.2	1.3	1.5	1.8	+0.3	0.1	*	*	0.1	0.1	0.0
College Students	7.3	7.3	6.2	5.1	7.1	+2.0s	2.7	2.7	2.5	2.4	3.7	+1.3s	0.6	1.0	0.7	0.4	1.2	+0.8s	—	—	—	—	—	—
Young Adults	9.3	8.9	8.1	8.2	8.9	+0.7	2.5	2.5	2.3	2.5	2.9	+0.4	0.6	0.7	0.7	0.6	0.9	+0.3	*	*	*	*	*	*
Stimulants[h]																								
8th Grade	10.5	10.8	11.8	12.3	13.1	+0.8	6.2	6.5	7.2	7.9	8.7	+0.8	2.6	3.3	3.6	3.6	4.2	+0.6s	0.1	0.1	0.1	0.1	0.2	0.0
10th Grade	13.2	13.1	14.9	15.1	17.4	+2.3ss	8.2	8.2	9.6	10.2	11.9	+1.7ss	3.3	3.6	4.3	4.5	5.3	+0.8s	0.1	0.1	0.3	0.1	0.2	+0.1
12th Grade	15.4	13.9	15.1	15.7	15.3	-0.4	8.2	7.1	8.4	9.4	9.3	-0.1	3.2	2.8	3.7	4.0	4.0	0.0	0.2	0.2	0.2	0.2	0.3	+0.1
College Students	13.0	10.5	10.1	9.2	10.6	+1.4	3.9	3.6	4.2	4.2	5.3	+1.1	1.0	1.1	1.5	1.5	2.2	+0.7	0.1	0.0	0.1	0.1	0.1	0.0
Young Adults	22.4	20.2	18.7	17.1	16.5	-0.6	4.3	4.1	4.0	4.5	4.5	0.0	1.5	1.5	1.5	1.7	1.7	0.0	0.1	0.1	0.1	0.1	0.2	+0.1
Ice[i]																								
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	3.3	2.9	3.1	3.4	3.9	+0.5	1.4	1.3	1.7	1.8	2.4	+0.6	0.6	0.5	0.6	0.7	1.1	+0.4	0.1	0.1	0.1	*	0.1	0.0
College Students	1.3	0.6	1.6	1.3	1.0	-0.3	0.1	0.2	0.7	0.8	1.1	+0.2	0.0	0.0	0.3	0.5	0.3	-0.2	—	—	—	—	—	—
Young Adults	2.9	2.2	2.7	2.5	2.1	-0.4	0.3	0.4	0.8	0.9	1.1	+0.3	*	0.1	0.3	0.5	0.3	-0.2	0.0	0.0	0.0	0.1	*	*
Barbiturates[h]																								
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	6.2	5.5	6.3	7.0	7.4	+0.4	3.4	2.8	3.4	4.1	4.7	+0.6	1.4	1.1	1.3	1.7	2.2	+0.5ss	0.1	*	0.1	*	0.1	+0.1
College Students	3.5	3.8	3.5	3.2	3.9	+0.7	1.2	1.4	1.5	1.2	2.0	+0.8	0.3	0.7	0.4	0.4	0.5	+0.1	—	—	—	—	—	—
Young Adults	8.2	7.4	6.8	6.4	6.6	+0.2	1.8	1.8	1.9	1.8	2.1	+0.2	0.5	0.5	0.6	0.6	0.8	+0.2	0.0	*	0.0	*	*	*
Tranquilizers[h]																								
8th Grade	3.8	4.1	4.4	4.6	4.5	-0.1	1.8	2.0	2.1	2.4	2.7	+0.3	0.8	0.8	0.9	1.1	1.2	+0.1	*	*	0.1	0.1	*	0.0
10th Grade	5.8	5.9	5.7	5.4	6.0	+0.6	3.2	3.5	3.3	3.3	4.0	+0.7s	1.2	1.5	1.1	1.5	1.7	+0.2	*	*	*	*	0.1	0.0
12th Grade	7.2	6.0	6.4	6.6	7.1	+0.5	3.6	2.8	3.5	3.7	4.4	+0.7s	1.4	1.0	1.2	1.4	1.8	+0.4s	0.1	*	*	0.1	*	0.0
College Students	6.8	6.9	6.3	4.4	5.4	+0.9	2.4	2.9	2.4	1.8	2.9	+1.1	0.6	0.6	0.4	0.4	0.5	+0.1	—	—	—	—	—	—
Young Adults	11.8	11.3	10.5	9.9	9.8	-0.1	3.5	3.4	3.1	2.9	3.3	+0.4	0.9	1.0	1.0	0.8	1.1	+0.3s	0.0	*	*	*	*	*

SOURCE: The Monitoring the Future Study, the University of Michigan.

(Table continued on next page)

TABLE 1 (cont.)

Trends in Prevalence of Various Drugs for Five Populations: Eighth, Tenth, and Twelfth Graders, College Students, and Young Adults (Ages 19-28)

	Lifetime 1991	Lifetime 1992	Lifetime 1993	Lifetime 1994	Lifetime 1995	Lifetime '94–'95 change	Annual 1991	Annual 1992	Annual 1993	Annual 1994	Annual 1995	Annual '94–'95 change
Alcohol[1]												
Any use												
8th Grade	70.1	69.3	67.1	—	—	—	54.0	53.7	51.6	—	—	—
			55.7	55.8	54.5	-1.3			45.4	46.8	45.3	-1.5
10th Grade	83.8	82.3	80.8	—	—	—	72.3	70.2	69.3	—	—	—
			71.6	71.1	70.5	-0.6			63.4	63.9	63.5	-0.4
12th Grade	88.0	87.5	87.0	—	—	—	77.7	76.8	76.0	—	—	—
			80.0	80.4	80.7	+0.3			72.7	73.0	73.7	+0.7
College Students	93.6	91.8	89.3	88.1	90.3	+2.2	88.3	86.9	85.1	82.7	84.5	+1.8
Young Adults	94.1	93.4	92.1	91.2	92.3	+1.2s	86.9	86.2	85.3	83.7	85.2	+1.5s
5+ drinks in last 2 weeks												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—
Been Drunk[1]												
8th Grade	26.7	26.8	26.4	25.9	25.3	-0.6	17.5	18.3	18.2	18.2	18.4	+0.2
10th Grade	50.0	47.7	47.9	47.2	46.9	-0.3	40.1	37.0	37.8	38.0	38.5	+0.5
12th Grade	65.4	63.4	62.5	62.9	63.2	+0.3	52.7	50.3	49.6	51.7	52.5	+0.8
College Students	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—
Cigarettes												
Any use												
8th Grade	44.0	45.2	45.3	46.1	46.4	+0.3	—	—	—	—	—	—
10th Grade	55.1	53.5	56.3	56.9	57.6	+0.7	—	—	—	—	—	—
12th Grade	63.1	61.8	61.9	62.0	64.2	+2.2s	—	—	—	—	—	—
College Students	—	—	—	—	—	—	35.6	37.3	38.8	37.6	39.3	+1.7
Young Adults	—	—	—	—	—	—	37.7	37.0	37.8	38.3	39.0	+0.8
1/2 pack+/day												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—
Smokeless Tobacco[1]												
8th Grade	22.2	20.7	18.7	19.9	20.0	+0.1	—	—	—	—	—	—
10th Grade	28.2	26.6	28.1	29.2	27.6	-1.6	—	—	—	—	—	—
12th Grade	—	32.4	31.0	30.7	30.9	+0.2	—	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—
Steroids[1]												
8th Grade	1.9	1.7	1.6	2.0	2.0	0.0	1.0	1.1	0.9	1.2	1.0	-0.2
10th Grade	1.8	1.7	1.7	1.8	2.0	+0.2	1.1	1.1	1.0	1.1	1.2	+0.1
12th Grade	2.1	2.1	2.0	2.4	2.3	-0.1	1.4	1.1	1.2	1.3	1.5	+0.2
College Students	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	1.7	1.9	1.5	1.3	1.5	+0.2	0.5	0.4	0.3	0.4	0.5	+0.1

	30-Day 1991	30-Day 1992	30-Day 1993	30-Day 1994	30-Day 1995	30-Day '94–'95 change	Daily 1991	Daily 1992	Daily 1993	Daily 1994	Daily 1995	Daily '94–'95 change
Alcohol[1]												
Any use												
8th Grade	25.1	26.1	26.2	—	—	—	0.5	0.6	0.8	—	—	—
			24.3	25.5	24.6	-0.9			1.0	1.0	0.7	-0.3s
10th Grade	42.8	39.9	41.5	—	—	—	1.3	1.2	1.8	—	—	—
			38.2	39.2	38.8	-0.4			1.8	1.7	1.7	0.0
12th Grade	54.0	51.3	51.0	—	—	—	3.6	3.4	2.5	—	—	—
			48.6	50.1	51.3	+1.2			3.4	2.9	3.5	+0.6ss
College Students	74.7	71.4	70.1	67.5	68.4	+0.9	4.1	3.7	3.9	3.6	3.3	-0.3
Young Adults	70.6	69.0	68.3	67.7	68.5	+0.9	4.9	4.5	4.5	3.8	3.9	+0.1
5+ drinks in last 2 weeks												
8th Grade	—	—	—	—	—	—	12.9	13.4	13.5	14.5	14.5	0.0
10th Grade	—	—	—	—	—	—	22.9	21.1	23.0	23.6	24.0	+0.4
12th Grade	—	—	—	—	—	—	29.8	27.9	27.5	28.2	29.8	+1.6
College Students	—	—	—	—	—	—	42.8	41.4	40.2	40.0	39.6	-0.4
Young Adults	—	—	—	—	—	—	34.7	34.2	34.4	33.7	32.8	-1.0
Been Drunk[1]												
8th Grade	7.6	7.5	7.8	8.7	8.3	-0.4	0.1	0.1	0.2	0.3	0.2	0.0
10th Grade	20.5	18.1	19.8	20.3	20.8	+0.5	0.2	0.3	0.4	0.4	0.6	+0.2s
12th Grade	31.6	29.9	28.9	30.8	33.2	+2.4	0.9	0.8	0.9	1.2	1.3	+0.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—
Cigarettes												
Any use												
8th Grade	14.3	15.5	16.7	18.6	19.1	+0.5	7.2	7.0	8.3	8.8	9.3	+0.5
10th Grade	20.8	21.5	24.7	25.4	27.9	+2.5ss	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
12th Grade	28.3	27.8	29.9	31.2	33.5	+2.3s	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
College Students	23.2	23.5	24.5	23.5	26.8	+3.3s	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Young Adults	28.2	28.3	28.0	28.0	29.4	+1.5	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1/2 pack+/day												
8th Grade	—	—	—	—	—	—	3.1	2.9	3.5	3.6	3.4	[illegible]
10th Grade	—	—	—	—	—	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
12th Grade	—	—	—	—	—	—	10.7	10.0	10.9	[illegible]	[illegible]	[illegible]
College Students	—	—	—	—	—	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Young Adults	—	—	—	—	—	—	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Smokeless Tobacco[1]												
8th Grade	6.9	7.0	6.6	7.7	7.1	-0.6	1.6	1.8	1.6	1.6	1.2	[illegible]
10th Grade	10.0	9.6	10.4	10.5	9.7	-0.8	3.3	3.0	3.3	3.0	2.7	-0.3
12th Grade	—	11.4	10.7	11.1	12.2	+1.1	—	4.3	3.3	3.9	3.6	[illegible]
College Students	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—
Steroids[1]												
8th Grade	0.4	0.5	0.5	0.5	0.6	+0.1	*	*	0.1	*	*	0.0
10th Grade	0.6	0.6	0.5	0.6	0.6	0.0	0.1	*	*	0.1	0.1	0.0
12th Grade	0.8	0.6	0.7	0.9	0.7	-0.2	0.1	0.1	0.1	0.4	0.2	-0.2
College Students	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	0.2	0.1	0.0	0.1	0.2	+0.1	0.0	0.1	0.0	0.0	0.1	+0.1

SOURCE: The Monitoring the Future Study, the University of Michigan.

(Footnotes are on next page)

NOTES: Level of significance of difference between the two years: s = .05, ss = .01, sss = .001. '—' indicates data not available. '*' indicates less than .05 percent. Any apparent inconsistency between the change estimate and the prevalence estimates for the two years is due to rounding error.

SOURCE: The Monitoring the Future Study, the University of Michigan.

Approximate Weighted Ns	1991	1992	1993	1994	1995
8th Graders	17,500	18,600	18,300	17,300	17,500
10th Graders	14,800	14,800	15,300	15,800	17,000
12th Graders	15,000	15,800	16,300	15,400	15,400
College Students	1,410	1,490	1,490	1,410	1,450
Young Adults	6,600	6,800	6,700	6,500	6,500

[a] For 12th graders only: Use of "any illicit drug" includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin, or any use of other opiates, stimulants, barbiturates, or tranquilizers not under a doctor's orders. For 8th and 10th graders only: The use of other opiates and barbiturates has been excluded, because these younger respondents appear to overreport use (perhaps because they include the use of nonprescription drugs in their answers).

[b] For 12th graders, college students, and young adults only: Data based on five of six forms; N is five-sixths of N indicated for each group.

[c] Inhalants are unadjusted for underreporting of amyl and butyl nitrites; hallucinogens are unadjusted for underreporting of PCP.

[d] For 8th, 10th, and 12th graders, and young adults only: Data based on one form; N for 12th graders and young adults is one-sixth of N indicated, N for 8th and 10th graders is one-half of N indicated. Questions about nitrite use were dropped from the college student and young adult questionnaires in 1995.

[e] For 12th graders, college students, and young adults only: Data based on four forms; N is four-sixths of N indicated for each group.

[f] For 12th graders, college students, and young adults only: Data based on two forms; N is two-sixths of N indicated for each group.

[g] In 1995, the heroin question was changed in half of the questionnaire forms. Separate questions were asked for use with injection and without injection. Data presented here represent the combined data from all forms.

[h] Only drug use which was not under a doctor's orders is included here.

[i] For 8th, 10th, and 12th graders only: In 1993, the question text was changed slightly in half of the forms to indicate that a "drink" meant "more than just a few sips." The data in the upper line for alcohol came from forms using the original wording, while the data in the lower line came from forms using the revised wording. In 1993, each line of data was based on one of two forms for the 8th and 10th graders and on three of six forms for the 12th graders. N is one-half of N indicated for these groups. Data for 1994-95 were based on all forms for all grades. For college students and young adults, the revision of the question text resulted in rather little change in reported prevalence. The data for all forms are used to provide the most reliable estimate of change.

[j] For 12th graders only: Data based on two of six forms; N is two-sixths of N indicated. For young adults only: Data based on one form; N is one-sixth of N indicated.

rose sharply in 1995 in all three grade levels as negative attitudes and beliefs about them continued to erode.

- This year's findings on illicit drug use are in many ways a continuation of the prior two years, with ***marijuana*** use rising sharply among secondary school students and their use of a number of ***other illicit drugs*** rising more gradually. The most significant change in the story is that these increases in use are now beginning to show up among American college students, as well, no doubt in large part to "generational replacement," wherein earlier graduating high school class cohorts are being replaced in the college population by more recent ones who were more drug experienced even before they left high school. The spread of this resurgence in the epidemic *up* the age spectrum is a reversal of the way the epidemic spread when it began in the 1960's. It began on the nation's college campuses and then the behavior diffused downward in age to high school students, and eventually junior high school students.

  At present there still is rather little increase in illicit drug use in the young adult population, 19-28 years old, taken as a whole; but it can be predicted that generational replacement will also begin to move the numbers up for this group, as well.

- A parallel finding occurred this year for ***cigarette*** smoking, as well, in that college students showed a sharp increase in smoking, no doubt reflecting a generational replacement effect. (Smoking has been rising among graduating high school seniors since 1992.) This has been a more typical pattern of change for ***cigarettes***, since differences among class cohorts tend to remain through much or all of the life cycle and also tend to account for much of the change in use which is observed at any given age. Whatever the cause, however, the sharp increase in 1995 in smoking among college students is also noteworthy.

- ***Marijuana*** use rose sharply in all three grade levels in 1995, the fourth year of increase for eighth graders and the third for tenth and twelfth graders. Over these intervals the annual use of marijuana (i.e., any use during the prior twelve months) more than doubled among eighth graders (from 6.2% in 1991 to 16% in 1995), nearly doubled among tenth graders (from 15% in 1992 to 29% in 1995), and grew by more than half among twelfth graders (from 22% in 1992 to 35% in 1995). Among college students and young adults, the increase from 1991 or 1992 had been much more gradual. Among college students, however, the increase in ***marijuana*** use accelerated considerably in 1995, no doubt in large part due to a "replacement effect," wherein more drug experienced high school graduates are replacing graduating college students who had used drugs less before going to college.

  Daily marijuana use rose significantly for 10th and 12th graders in 1995, reaching 4.6% among seniors; that is one in every 22 students or more than one per average classroom. Still, this rate is far below the 10.7% peak figure reached in 1978. College students showed a doubling in their daily use rate, which rose from 1.8% in 1994 to 3.7% in 1995.

- Among seniors, the proportions using ***any illicit drug other than marijuana*** in the past year rose to 19% from a low of 15% in 1992, a rate still substantially below the 34% peak rate in 1981. There was very little change for young adults (14%) but all of the younger groups showed significant increases in 1995, including college students for the first time.

- In 1989-1991 we noted an increase among college students and young adults in the use of ***LSD***, a drug most popular in the late 1960s and early 1970s. In 1992, all five populations showed an increase in annual prevalence of LSD. Then for two years modest increases persisted among the secondary school students. In 1995 there were significant increases in LSD use in all three grade levels as well as among the college students. As with marijuana, the recent increase among college students may largely be due to a "replacement effect."

  Prior to the significant increase in use among seniors in 1993, there was a significant 4.3% decline in the proportion seeing great risk associated with trying LSD. A nonsignificant decline in this belief continued through 1995. The proportion disapproving LSD began to decline in 1992 and continued through 1995.

  Since LSD was one of the earliest drugs to be popularly used in the overall American drug epidemic, there is a distinct possibility that young people—particularly the youngest cohorts, like the eighth graders—are not as concerned about the risks of use. They have had less opportunity to learn vicariously about the consequences of use by observing others around them, or to learn from intense media coverage of the issue. This type of "generational forgetting" of the dangers of a drug, which occurs as a result of generational replacement, could set the stage for a whole new epidemic of use. There has, in fact, been the decline in perceived harmfulness of LSD, just mentioned, which began after 1989 among seniors. These measures were first introduced for eighth and tenth graders in 1993 and both measures have been dropping since then among them as well.

- Prescription-controlled ***stimulants***—one of the most widely used classes of drugs taken illicitly (i.e., outside of medical regimen)—also showed evidence of a continued increase among the 8th and 10th graders in 1995, with annual and 30-day prevalence rates gradually increasing. The 12th grade did not show this increase in 1995, although their use had increased between 1992 and 1994.

  Annual prevalence rates had fallen from 20% in 1982 to 7% in 1992 among seniors, and had fallen from 21% to 4% among college students over the same interval. The increase in use (and a decrease in disapproval) began among seniors in 1993, following a sharp drop in perceived risk a year earlier. This pattern of change was consistent with our theoretical position that perceived risk can drive both use and disapproval. Perceived risk, but not disapproval, continued to decline in 1995 among seniors, while ***stimulant*** use leveled.

College students showed an increase in ***stimulant*** use, but it was not large enough to reach statistical significance. Young adults showed no change in use.

- The ***inhalants*** constitute another class of abusable substances where a troublesome increase continued in 1995. Inhalants are defined as fumes or gases which are inhaled to get high, including common household substances such as glues, aerosols, butane, and solvents. One class of inhalants, ***amyl and butyl nitrites***, became somewhat popular in the late 1970s, but their use has been almost eliminated. For example, annual prevalence among twelfth grade students was 6.5% in 1979 but only 1.1% in 1995.

  When the nitrites are removed from consideration it appears that all other inhalants taken together have had an upward trend in annual use, from 3.0% among seniors in 1976 to 8.0% in 1995. The three secondary school populations continued to show a modest increase in inhalant use in 1995, though in no case was the one-year change statistically significant. Some 13% of the 1995 eighth graders and 10% of the tenth graders indicated use in the prior 12 months, making inhalants the second most widely used class of illicitly used drugs for eighth graders (after marijuana) and the third most widely used (after marijuana and stimulants) for the tenth graders. Inhalants can and do cause death, and tragically, this often occurs among youngsters in their early teens.

- Among high school seniors the overall prevalence of ***crack*** cocaine leveled in 1987 at relatively low prevalence rates, even though crack use continued to spread to new communities. In 1995, annual prevalence rose slightly (not significantly) to 2.1% for seniors (up from 1.5% in 1993 but down from 3.9% in 1987). Small increases among eighth and tenth grade students in both 1994 and 1995 did reach statistical significance. Among young adults one to ten years past high school, annual prevalence was 1.0%, relatively unchanged since 1991.

  While it did not reach statistical significance, college students showed their first increase in ***crack*** use in 1995, much as happened for the other illicit drugs discussed here. In high school, annual crack prevalence among the college-bound is lower than among those not bound for college (1.7% vs. 3.0%).

We believe that the particularly intense and early media coverage of the hazards of crack cocaine likely had the effect of "capping" an epidemic early by deterring many would-be users and by motivating many experimenters to desist use. While 3.0% of seniors report ever having tried crack, only 1.0% report use in the past month, indicating noncontinuation by 67% of those who try it. The longer-term downward trend could be explained by lower initiation rates among students and by higher noncontinuation rates.

While crack use did not increase in 1993, perceived risk and disapproval dropped in all three grade levels, predicting the modest rise in use in all three grades in 1994 and 1995.

- ***Cocaine***[5] in general began to decline a year earlier than crack. Between 1986 and 1987 the annual prevalence rate dropped dramatically, by roughly one fifth in all three populations then studied—seniors, college students, and young adults. The decline occurred when young people began to view experimental and occasional use—the type of use in which they are most likely to engage—as more dangerous. This change had occurred by 1987, probably partly because the hazards of cocaine use received extensive media coverage in the preceding year, but almost surely in part because of the cocaine-related deaths in 1986 of sports stars Len Bias and Don Rogers. By 1992 annual prevalence of cocaine use had fallen by about two-thirds among the three populations for which long-term data are available.

In 1993, cocaine use remained stable among secondary students but continued to decline among college students and young adults. In 1994 and 1995, annual use rose among eighth, tenth, and twelfth graders and increased significantly for the first time in recent years among college students. There was no change in use among young adults. Again, the story regarding attitudes and beliefs is informative.

Having risen substantially since 1986, the perceived risk of using cocaine actually showed some (nonsignificant) decline in 1992 among seniors. In 1993, perceived risk for cocaine other than crack fell sharply in all grades and disapproval began to decline in all grades, though not as sharply as perceived risk. In 1995, perceived risk declined in all three grades. Disapproval continued its decline among eighth and tenth graders, but not among seniors.

Through 1989, there was no decline in perceived availability of cocaine among twelfth graders; in fact, it rose steadily from 1983 to 1989 suggesting that availability played no role in bringing about the substantial downturn in use. After 1989, however, perceived availability has fallen some among seniors; the decline may be explained by the greatly reduced proportions of seniors who say they have any friends who use, because friendship circles are an important part of the supply system. Since 1992 there has been rather little change in eighth and tenth grade reports of availability of powder cocaine. Among seniors, reported availability declined from 1992 to 1994, before leveling.

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[5] Unless otherwise specified, all references to "cocaine" refer to the use of cocaine in any form, including crack.

As with all the illicit drugs, lifetime cocaine prevalence climbs with age, exceeding 24% by age 28. Unlike all of the other illicit drugs, active use—i.e., annual prevalence or monthly prevalence—also climbs after high school.

- ***PCP*** use fell sharply among high school seniors between 1979 and 1982, from an annual prevalence of 7.0% to 2.2%. It reached a low point of 1.2% in 1988 and stands at 1.8% in 1995. For the young adults, the annual prevalence rate is now only 0.3%.

- The annual prevalence of ***heroin*** use among twelfth graders fell by half between 1975 (1.0%) and 1979 (0.5%). It then stabilized for some fifteen years until 1994 (0.6%), before rising significantly to 1.1% in 1995. Among young adults and college students as well, heroin statistics were quite stable and at low rates (about 0.1% to 0.2%) through 1994, followed by the first increase in 1995. Eighth and tenth graders showed an increase in heroin use in both 1994 and 1995. Their annual prevalence rates are roughly double what they were in the early nineties. Two factors that very likely contribute to the recent upturn in heroin use are: (1) a long-term decline in the perceived dangers of heroin due to "generational forgetting" (the last major heroin epidemic occurred around 1970), and (2) the fact that in recent years heroin can be used without injection (making it seem safer and perhaps less addicting). Using some new questions on heroin use introduced in 1995, we are able to show that significant proportions of past year users in grades eight, ten, and twelve, are taking heroin by means other than injection. (See Chapter 4 for details.)

  We take these recent increases to reflect the fact that the newer, purer heroin available on the street can be taken by means other than injection (by snorting or smoking, for example). These new modes of administration presumably are considered safer (and may well be considered less likely to lead to addiction) than intravenous injection, thus lowering a significant psychological barrier for many potential users. New questions introduced into the study in 1995 show that, indeed, a substantial proportion of recent heroin users are using by means other than injection.

  The risk perceived to be associated with heroin fell for more than a decade after the study began, with 60% of the 1975 seniors seeing a great risk of trying heroin once or twice and only 46% of the 1986 seniors saying the same. Since the last major heroin epidemic occurred around 1970, we view this steady decline in perceived risk as a case of "generational forgetting" of the drug's dangers. Between 1986 and 1991 perceived risk rose from 46% to 55%, undoubtedly reflecting the new threat of HIV infection associated with heroin injection. After 1991, however, perceived risk fell again (to 51% by 1995), this time perhaps reflecting the fact that the newer heroin on the street was so much purer that it could be administered by methods other than injection.

- The use of ***opiates other than heroin*** had been fairly level over most of the life of the study. Seniors had an annual prevalence rate of 4% to 6% from 1975 to 1990. In 1991, however, a significant decline (from 4.5% to 3.5%) was observed. Young adults in their twenties have generally shown a very gradual decline from 3.1% in 1986 to 2.5% in 1994; college students have likewise shown a slow decrease, from 3.8% in 1982-1984 to 2.4% in 1994. Over the last one to three years, however, each of these populations has shown some increase in use. (Data are not reported for younger grade levels because we believe the students are not accurately discriminating among the drugs which should be included or excluded from this class.)

- A long and substantial decline, which began in 1977, occurred for ***tranquilizer*** use among high school seniors. By 1992 annual prevalence reached 2.8%, down from 11% in 1977. Since 1992, use has increased, reaching 4.4% in 1995. Reported tranquilizer use also has shown some recent, modest increase among eighth graders, from 1.8% in 1991 to 2.7% in 1995. Among tenth graders, annual prevalence remained stable between 1991 and 1994 at around 3.3%, and then increased significantly to 4.0% in 1995. After a period of stability, college students also showed some increase in 1995. For the young adult sample, annual prevalence has been quite stable in recent years, after a long period of decline.

- The long-term gradual decline in ***barbiturate*** use, which began at least as early as 1975, when the study began, halted in 1988. Annual prevalence among seniors fell from 10.7% in 1975 to 3.2% in 1988, and then hovered around 3.4% through 1991 before dropping further to 2.8% in 1992. It rose significantly to 4.1% in 1994 and in 1995 it again rose (not significantly to 4.7%). The 1995 annual prevalence of this class of sedative drugs is lower among the young adult sample (2.1%), and lower still among college students specifically (2.0%). For these groups there has been little change since 1988. Again, data are not included here for lower grades because we believe the younger students have more problems with the proper classification of relevant drugs.

- ***Methaqualone***, another sedative drug, has shown quite a different trend pattern than barbiturates. Its use rose steadily among seniors from 1975 to 1981, when annual prevalence reached 8%. It then fell rather sharply to 0.2% by 1993 and rose significantly to 0.8% in 1994 and 0.7% in 1995. Use also fell among all young adults and among college students, which had annual prevalence rates of only 0.3% and

0.2%, respectively in 1989—the last year in which they were asked about this drug. In the late eighties, shrinking availability may well have played a role in this drop, as legal manufacture and distribution of the drug ceased. Because of its very low usage rates, only the seniors are now asked about their use of this drug.

- In sum, five classes of illicitly used drugs, ***marijuana***, ***cocaine***, ***stimulants***, ***LSD***, and ***inhalants*** have had an impact on appreciable proportions of young Americans in their late teens and twenties. In 1995, high school seniors showed annual prevalence rates of 35%, 4%, 9%, 8%, and 8%, respectively. Among college students in 1995, the comparable annual prevalence rates are 31%, 4%, 5%, 7%, and 4%; and for all high school graduates one to ten years past high school (young adults) the rates are 27%, 4%, 5%, 5%, and 2%. It is worth noting that LSD has climbed in the rankings because its use has not declined, or in some cases has increased, during a period in which use of cocaine, amphetamines, and other drugs declined appreciably. The inhalants have become relatively more important for similar reasons.

  Clearly, cocaine is relatively more important in the older age group and inhalants are relatively more important in the younger ones. In fact, in eighth grade inhalants are second to marijuana as the most widely used of the illicit drugs.

  Because of their importance among the younger adolescents, a new index of illicit drug use including inhalants was introduced in Table 1. Certainly the use of inhalants reflects a form of illicit, psychoactive drug use; its inclusion makes relatively little difference in the illicit drug index prevalence rates for the older age groups, but considerable difference for the younger ones. For example, the proportion of eighth graders reporting any illicit drug used in their lifetime, exclusive of inhalants, in 1995 is 29%, whereas 38% report such experience if inhalants are included.

- The annual prevalence among seniors of over-the-counter ***stay-awake pills***, which usually contain caffeine as their active ingredient, nearly doubled between 1982 and 1990, increasing from 12% to 23%. Since 1990 this statistic has fallen slightly to 20% in 1995. Increases also occurred among the college-age young adult population (ages 19-22), where annual prevalence was 26% in 1989, but is now down to 18% in 1995.

  The other two classes of nonprescription stimulants–the ***look-alikes*** and the over-the-counter ***diet pills***—also showed some fall-off among both seniors and young adults in recent years, though use among seniors rose in 1995. Among seniors in 1995 some 24% of the females have tried diet pills by the end of senior year, 15% have used them in the past year, and 6% in just the past month.

College-Noncollege Differences in Illicit Drug Use

- American college students (defined here as those respondents one to four years past high school who were actively enrolled full-time in a two- or four-year college) show annual usage rates for a number of drugs which are about average for their age group, including ***any illicit drug***, ***marijuana*** specifically, ***hallucinogens***, ***LSD***, and ***opiates other than heroin***. For several categories of drugs, however, college students have rates of use which are below those of their age peers, including ***any illicit drug other than marijuana***, ***cocaine***, ***crack*** cocaine specifically, ***heroin***, ***tranquilizers***, ***stimulants***, ***ice***, and ***barbiturates***.

  Since college-bound seniors had below average rates of use on all of these illicit drugs while they were in high school, the eventual attainment of parity on many of them reflects some closure of the gap. As results from the study published elsewhere have shown, this college effect of "catching up" is largely explainable in terms of differential rates of leaving the parental home and of getting married. College students are more likely than their age peers to have left the parental home and its constraining influences and less likely to have entered marriage, with its constraining influences.

- In general, the trends since 1980 in illicit substance use among American college students have paralleled those of their age peers not in college. Most drugs showed a period of substantial decline in use since then. Further, all young adult high school graduates through age 28, as well as college students taken separately, showed trends which were highly parallel for the most part to the trends among high school seniors up until about 1992. After 1992 a number of drugs showed an increase in use among seniors (as well as eighth and tenth graders), but not among college students and young adults. This divergence, combined with the fact that the upturn began first among the eighth graders (in 1992), suggests that cohort effects are emerging for illicit drug use.

Male-Female Differences in Illicit Drug Use

- Regarding sex differences in three older populations (seniors, college students, and young adults), males are more likely to use ***most illicit drugs***, and the differences tend to be largest at the higher frequency levels. ***Daily marijuana use*** among high school seniors in 1995, for example, is reported by 6.5% of males vs. 2.4% of females; among all young adults (19-32 years) by 4.4% of males vs. 2.2% of females; and among college students, specifically, by 4.6% of males vs. 3.0% of females. The only significant exception to the rule that males are more frequently users of illicit drugs than females occurs for ***stimulant*** use in high school, where females usually are at the same level or slightly higher.

- In the eighth and tenth grade samples there are fewer sex differences in the use of drugs—perhaps because the girls tend to date older boys who are in age groups considerably more likely to use drugs. There is little male-female difference in eighth and tenth grades in the use of ***cocaine*** and ***crack***. ***Stimulant*** use is slightly higher among females.

TRENDS IN ALCOHOL USE

- Several findings about ***alcohol*** use in these age groups are noteworthy. First, despite the fact that it is illegal for virtually all secondary school students and most college students to purchase alcoholic beverages, experience with alcohol is almost universal among them. That is, 55% of eighth graders have tried it, 71% of tenth graders, 81% of twelfth graders, and 90% of college students, and active use is widespread. Most important, perhaps, is the widespread occurrence of occasions of heavy drinking—measured by the percent reporting five or more drinks in a row at least once in the prior two-week period. Among eighth graders this statistic stands at 15%, among tenth graders at 24%, among twelfth graders at 30%, and among college students at 40%. After the early twenties this behavior recedes somewhat, reflected by the 33% found in the entire young adult sample.

- Alcohol use did not increase as use of other illicit drugs decreased among seniors, although it was common to hear such a "displacement hypothesis" asserted. This study demonstrates that the opposite seems to be true. After 1980, when illicit drug use was declining, the monthly prevalence of alcohol use among seniors also declined gradually, from 72% in 1980 to 51% in 1993. ***Daily use*** declined from a peak of 6.9% in 1979 to 2.5% in 1993; and the prevalence of drinking ***five or more drinks in a row*** (binge drinking) during the prior two-week interval fell from 41% in 1983 to 28% in 1993—nearly a one-third decline. Now that illicit drug use is starting to rise again in the nineties, there is evidence that alcohol use may, if anything, be starting to increase as well—particularly binge drinking. (Annual and 30-day use have remained fairly stable.)

College-Noncollege Differences in Alcohol Use

- The data from college students show a quite different pattern in relation to alcohol use. They show less drop-off in monthly prevalence since 1980 (82% to 68% in 1995) and slightly less decline in ***daily use*** (6.5% in 1980 to 3.3% in 1995). There has also been little change in ***occasions of heavy drinking***, which was at 40% in 1995—considerably higher than the 30% among high school seniors. Since both their noncollege-age peers and high school students have been showing a net decrease in occasions of heavy drinking since 1980, the college students stand out as having maintained a very high rate of binge or party drinking. Since the college-bound seniors in high school are consistently less likely to report occasions of heavy drinking than the noncollege-bound, this indicates that they are "catching up and passing" their peers in binge drinking after high school.

- In most surveys from 1980 onward, college students have had a ***daily drinking*** rate which was slightly lower than that of their age peers, suggesting that they were more likely to confine their drinking to weekends, when they tend to drink a lot. Again, college men have much higher rates of daily drinking than college women: 5.3% vs. 1.8% in 1995. The rate of daily drinking has fallen considerably among the noncollege group, from 8.7% in 1981 to 3.5% in 1995.

Male-Female Differences in Alcohol Use

- There is a substantial sex difference among high school seniors in the prevalence of ***occasions of heavy drinking*** (23% for females vs. 37% for males in 1995); this difference generally had been diminishing very gradually since the study began.

- There are also substantial sex differences in alcohol use among college students, and young adults generally, with males drinking more. For example, 47% of college males report having ***five or more drinks in a row*** over the previous two weeks vs. 35% of college females. There had been little change in this gender difference between 1980 and 1994, but in 1995 the difference began to narrow as the rate for males dropped and the rate for females rose.

TRENDS IN CIGARETTE SMOKING

- A number of important findings about ***cigarette smoking*** among American adolescents and young adults have emerged from the study. Despite the demonstrated health risks associated with smoking, sizeable proportions of young people still are establishing regular cigarette habits during late adolescence. In fact, since the study began in 1975, cigarettes have consistently comprised the class of substance most frequently used on a daily basis by high school students.

- At present we are in a period of clear and continuing increase in cigarette smoking among teens. Twelfth graders have shown an increase in smoking which began in 1992, while eighth and tenth graders have shown a steady increase since they were first surveyed in 1991. Their rates of current smoking–that is, smoking any cigarettes in the prior 30 days–rose among eighth graders by a third between 1991 and 1995, from 14% to 19%. Tenth graders' current smoking rates increased by the same proportion over the same interval, from 21% to 28%. Among seniors the current smoking rate has risen over one-fifth since 1992, from 28% to 34%. (All three changes are highly statistically significant.)

- For seniors, this upturn follows a substantial decline in smoking during the period from 1977 to 1981, a leveling for nearly a decade (through 1990) and a slight decline in 1991 and 1992.

- The dangers perceived to be associated with pack-a-day smoking differ greatly by grade level and seem to be unrealistically low at all grade levels. Only two-thirds of the seniors (66%) report that a pack-a-day smokers run a great risk of harming themselves and only half (50%) of the eighth graders say the same. All three grades showed a decrease in perceived risk in 1994 and 1995. Disapproval of cigarette smoking has been in decline longer: since 1991 among eighth and tenth graders and since 1992 among twelfth graders.

Age and Cohort-Related Differences in Cigarette Smoking

- Initiation of daily smoking most often occurs in grades 6 through 9 (i.e., at modal ages 11-12 to 14-15), with rather little further initiation after high school, although a number of light smokers make the transition to heavy smoking in the first two years after high school. Analyses presented in this volume and elsewhere have shown that cigarette smoking shows a clear "cohort effect." That is, if a class (or birth) cohort establishes an unusually high rate of smoking at an early age relative to other cohorts, it is likely to remain high throughout the life cycle.

- As we reported in the "Other Findings from the Study" chapter in the 1986 volume in this series, some 53% of the half-pack-a-day (or more) smokers in senior year said that they had tried to quit smoking and found they could not. (The figure was 50% in 1995.) Of those who were daily smokers in high school, nearly three-quarters were daily smokers 7 to 9 years later (based on the 1985 survey), despite the fact that in high school only 5% of them thought they would "definitely" be smoking 5 years hence. Clearly, the smoking habit is established at an early age; it is difficult to break for those young people who have it; and young people greatly overrate their own ability to quit. Additional data from the eighth and tenth grade students show us that younger children are even more likely than older ones to underestimate the dangers of smoking.

- The surveys of eighth and tenth graders also show that cigarettes are almost universally available to teens. Three-quarters of eighth graders and 91% of tenth graders say that cigarettes are "fairly easy" or "very easy" for them to get, if they want them; and there has been little change in reported availability since these questions were first asked in 1992.

College-Noncollege Differences in Cigarette Smoking

- A striking difference in smoking rates exists between college-bound and noncollege-bound high school seniors. For example, smoking half-pack or more a day is more than twice as prevalent among the noncollege-bound seniors (23% vs. 9%). Among respondents one to four years past high school, those not in college show the same dramatically higher rate of smoking compared to that found among those who are in college, with half-pack-a-day smoking standing at 23% and 10%, respectively.

Male-Female Differences in Cigarette Smoking

- Since 1980, among college students, females have had slightly higher probabilities of being daily smokers, although this finding did not replicate in 1995. This long-standing sex difference has not been true of their age peers who are not in college.

  In the 1970s, among high school seniors, females caught up to, and passed, males in their rates of ***current smoking***. Both sexes then showed a decline in use followed by a long, fairly level period with use by females consistently higher. In 1990 there was another crossover due to a rising rate among males (from 1987 to 1995) and a falling rate among females (from 1987 to 1992) resulting in males having a higher rate from 1991 to 1995. Both sexes have shown increasing use since 1992.

RACIAL/ETHNIC COMPARISONS

The three largest ethnic groupings—whites, blacks, and Hispanics taken as a group—are examined here. (Sample size limitations simply do not allow finer subgroup breakdowns unless many years are combined.) A number of interesting findings emerge in these comparisons, and the reader is referred to Chapters 4 and 5 for a full discussion of them.

- Black seniors have consistently shown lower usage rates on most drugs, licit and illicit, than white students; this also is true at the lower grade levels where little dropping out of school has occurred. In some cases, the differences are quite large.

- Black students have a much lower prevalence of ***daily cigarette smoking*** than white students (6% vs. 24% in senior year, in 1995) because their smoking rate continued to decline after 1983, while the rate for whites stabilized for some years. (Smoking rates have been rising among whites since 1992 and among blacks since 1993.)

- In twelfth grade, ***binge drinking*** is much less likely to be reported by black students (15%) than by white (32%) or Hispanic students (27%).

- In twelfth grade, of the three racial/ethnic groups, whites have the highest rates of use on a number of drugs, including ***marijuana, inhalants, hallucinogens, LSD*** specifically, ***barbiturates, amphetamines, tranquilizers, opiates other than heroin***, ***alcohol***, ***cigarettes***, and ***smokeless tobacco***.

- However, in senior year, Hispanics have the highest usage rate for a number of the most dangerous drugs: ***cocaine, crack, other cocaine***, and in 1994-1995 ***heroin*** use. Further, in eighth grade, Hispanics have the highest rates not only on these drugs, but on many of the others, as well. For example, in eighth grade, the annual prevalence for Hispanics is 20%, vs 14% for whites and 12% for blacks for ***marijuana***; 4%, 4%, and 1% for ***hallucinogens***; 22%, 21%, and 9% for 30-day prevalence of ***cigarettes***; 22%, 14%, and 11% for ***binge drinking***; etc. In other words, Hispanics have the highest rates of use for nearly all drugs in eighth grade, but not in twelfth which suggests that their considerably higher dropout rate (compared to whites and blacks) may change their relative ranking by twelfth grade.

- With regard to trends, seniors in all three racial/ethnic groups exhibited the decline in ***cocaine*** use from 1986 through 1992, although the decline was less steep among black seniors because the earlier increase in use was not as large as that among whites and Hispanics.

- For virtually ***all of the illicit drugs***, the three groups have tended to trend in parallel. Because white seniors had achieved the highest level of use on a number of drugs—including ***stimulants, barbiturates,*** and ***tranquilizers***—they also had the largest declines; blacks have had the lowest rates, and therefore, the smallest declines.

- During the life of the study, important racial/ethnic differences in ***cigarette smoking*** have emerged among seniors. The three groups were fairly similar in their smoking rates during the late 1970s and all three mirrored the general decline in smoking from 1977-1981. Since 1981, however, a considerable divergence has emerged: Through 1992, smoking rates declined very little, if at all, for whites and Hispanics, but the rates for blacks continued to decline steadily. As a result, by 1992 the daily smoking rate for blacks was one-fifth that for whites. By 1995, both blacks and whites showed an increase in smoking, however, and in all three grade levels.

DRUG USE IN EIGHTH GRADE

It may be useful to focus specifically on the youngest age group in the study—the eighth graders—who are about 13 to 14 years old, because the exceptional level of both licit and illicit drug use that they already have attained helps illustrate the urgent need for the nation to continue to address the problems of substance abuse among its young.

- By eighth grade 55% of youngsters report having tried ***alcohol*** (more than just a few sips) and a quarter (25%) say they have already been drunk at least once.

- Nearly half of the eighth graders (46%) have tried ***cigarettes***, and 19%, or nearly one in five, say they have smoked in the prior month. Only 50% say there is great risk associated with being a pack-a-day smoker.

- ***Smokeless tobacco*** has been tried by 31% of the male eighth graders, is used currently by 12% of them, and is used daily by 2.2%. Rates are far lower among the female eighth graders.

- Among eighth graders, one in five (22%) have used ***inhalants***, and 6% say they have used in the past month. This is the only class of drugs for which use is substantially higher in eighth grade than in tenth or twelfth grade.

- ***Marijuana*** has been tried by one in every five eighth graders (20%), and has been used in the prior month by one in every eleven (9%), and these numbers are rising rapidly.

- A surprisingly large number of eighth grade students say they have tried prescription-type ***stimulants*** (13%); 4.2% say they have used them in the prior 30 days.

- Relatively few eighth graders say they have tried most of the other illicit drugs yet. (This is consistent with the retrospective reports from seniors.) But the proportions having at least some experience with them still is not inconsequential when one considers the fact that a 3.3% prevalence rate represent one child in every 30-student classroom on average: ***tranquilizers*** (4.5%), ***LSD*** (4.4%), ***other hallucinogens*** (2.5%), ***crack*** (2.7%), ***other cocaine*** (3.4%), ***heroin*** (2.3%), and ***steroids*** (2.0% overall, and 2.6% among males.)

- The very large numbers who have already begun use of the so-called "gateway drugs" (***tobacco***, ***alcohol***, ***inhalants***, and ***marijuana***) suggests that a substantial number of eighth grade students are already at risk of proceeding further to such drugs as LSD, cocaine, amphetamines, and heroin.

SUMMARY AND CONCLUSIONS

To summarize the findings on trends, over more than a decade—from the late 1970's to the early 1990's—there were appreciable declines in the use of a number of the ***illicit drugs*** among seniors, and even larger declines in their use among American college students and young adults. These substantial improvements—which seem largely explainable in terms of changes in attitudes, beliefs about risk of drugs, and peer norms against drug use—have some extremely important policy implications. One is that the nation does have the capacity to deal quite effectively with the drug problem. It has done it before. The second is that demand-side factors appear to have been pivotal in bringing about those changes. The availability of marijuana, as reported by high school seniors, has held fairly steady throughout the life of the study. (Moreover, abstainers and quitters rank availability and price very low on their list of reasons for not using.) And the perceived availability of cocaine actually was rising during the beginning of the sharp decline in cocaine and crack use.

However, as we have previously warned, the stall in these favorable trends in all three populations in 1985, as well as an increase in active ***cocaine*** use that year, should have served as a reminder that the improvements were not inevitable and should not be taken for granted. Further, during the 1980s, the use of ***inhalants*** other than the nitrites continued to rise.

While the general decline in use resumed in 1986 and, most importantly, was joined by the start of a decline in ***cocaine*** use in 1987 and ***crack*** use in 1988, in 1992 a number of alarm bells sounded. While the seniors continued to show improvement on a number of measures in 1992, the college students and young adults did not. Further, the attitudes and beliefs of seniors regarding drug use began to soften. Perhaps of greatest importance, the eighth graders exhibited a significant increase in use of ***marijuana, cocaine, LSD***, and ***hallucinogens other than LSD*** that year, as well as an increase in ***inhalant*** use. (In fact, all five populations showed some increase on ***LSD***, continuing a longer term trend for college students and young adults.)

In 1993, 1994 and again in 1995, still more alarm bells sounded. Eighth graders continued to show an increase in their use of a number of drugs, and the tenth graders and twelfth graders joined them, fulfilling predictions based on their eroding beliefs about the dangers of drugs and their attitudes about drug use. Increases occurred in a number of the so-called "gateway drugs"—***marijuana***, ***cigarettes***, and ***inhalants***—which we argued boded ill for the use of later drugs in the usual sequence of drug-use involvement. Indeed, the proportion of students reporting the use of any illicit drug other than marijuana has risen steadily since 1991 among eighth and tenth graders and since 1992 among twelfth graders. (This proportion has increased by exactly half among eighth graders [with annual prevalence rising from 8.4% in 1991 to 12.6% in 1995].) The softening attitudes about ***crack*** and other forms of ***cocaine*** also provided a basis for concern.

This study has demonstrated over the years that changes in perceived risk and disapproval have been important causes of change in the use of a number of drugs. These beliefs and attitudes surely are influenced by the amount and nature of the public attention being paid to the drug issue at the time young people are growing up. A substantial decline in attention to this issue in the past few years may help explain why the increases in perceived risk and disapproval among students ceased, and backsliding began.

Also, we seem to be seeing the beginning of a turnaround in the drug abuse situation more generally among our youngest cohorts—perhaps because they have not had the same opportunities for vicarious learning from the adverse drug experiences of people around them and people they learn about through the media. Clearly there was a danger that, as the drug epidemic subsided considerably, newer cohorts would have far less opportunity to learn through informal means about the dangers of drugs. This may mean that the nation must redouble its efforts to be sure that they learn these lessons through more formal means–from schools, parents, and focused messages in the media, for example–and that this more formalized prevention effort become institutionalized so that it will endure for the long term. Clearly, for the foreseeable future, American young people will be aware of the psychoactive potential of a host of drugs and will have access to them. That means that each new generation of young people must learn why they should not use drugs. Otherwise their natural curiosity and desires for new experiences will lead a great many of them to use.

The following facts help to put into perspective the magnitude and variety of substance use problems which remain among American young people at the present time:

- By the end of eighth grade, over a third (38%) of American secondary school students have tried an ***illicit drug*** (if inhalants are included as an illicit drug). Nearly half of all tenth graders have done so (46%), and just over half of twelfth graders (52%).

- By their late twenties, 70% of today's American young adults today have tried an ***illicit drug***, including nearly half (45%) who have tried some ***illicit drug other than*** (usually in addition to) ***marijuana***. (These figures do not include inhalants.)

- Three out of ten young Americans have tried ***cocaine*** (29% in 1995) by the age of 30, and 6% have tried it by their senior year of high school (approximately age eighteen). One in every thirty-three seniors (3.0%) have tried the particularly dangerous form of cocaine called ***crack***: in the young adult sample one in twenty-six (3.8%) have tried it.

- Roughly one in twenty-two (4.6%) high school seniors in 1995 smoked ***marijuana daily***. Among young adults aged 19 to 28, the percent is slightly less (3.3%). Among seniors in 1995, one in eight (12.1%) had ever been daily marijuana smokers at some time for at least a month, and among young adults the comparable figure is 13.9%.

- Some 30% of seniors had consumed ***five or more drinks in a row*** at least once in the two weeks prior to the survey, and such behavior tends to increase among young adults one to four years past high school. The prevalence of such behavior among male college students reaches 47%.

- One-third (34%) of seniors in 1995 were current ***cigarette*** smokers and 22% already were current daily smokers; these numbers are rising among seniors, as well as among the younger students. In addition, many of the lighter smokers will convert to heavy smoking after they leave high school.

- Despite the improvements between 1979 and 1991, it is still true that this nation's secondary school students and young adults show a level of involvement with illicit drugs which is greater than has been documented in any other industrialized nation in the world. Even by longer-term historical standards in this country, these rates remain extremely high. Heavy drinking also remains widespread and troublesome; and certainly the continuing initiation of a large and growing proportion of young people to cigarette smoking is a matter of the greatest public health concern.

- Finally, we note the seemingly unending capacity of pharmacological experts and amateurs to discover new substances with abuse potential that can be used to alter mood and consciousness, as well as the potential for our young people to "discover" the abuse potential of existing products, like Robitussin™, and to "rediscover" older drugs, such as ***LSD*** and now ***heroin***. While as a society we have made significant progress on a number of fronts in the fight against drug abuse, we must remain vigilant against the opening of new fronts, as well as the re-emergence of trouble on older ones. The recent rises in illicit drug use and in cigarette smoking, both of which began in the early 1980s, certainly suggests that we have not been sufficiently vigilant and/or effective.

- The drug problem is not an enemy which can be vanquished, as in a war. It is more a recurring and relapsing problem which must be contained to the extent possible on a long term, ongoing basis; and, therefore, it is a problem which requires an ongoing, dynamic response from our society—1wone which takes into account the continuing generational replacement of our children and the generational forgetting of the dangers of drugs which can occur with that replacement.

Chapter 3

STUDY DESIGN AND PROCEDURES

This chapter describes the research design, sampling plans, and field procedures used in both the in-school surveys of the eighth, tenth, and twelfth grade students, and the follow-up surveys of young adults. Related methodological issues such as response rates, population coverage, and the validity of the measures are also discussed. We begin with a description of the design which has been used consistently over 21 years to survey high school seniors; then the much more recently instituted design for eighth and tenth graders is described. Finally, the designs for the *follow-up* surveys of former twelfth graders, and former eighth and tenth graders, are covered.[6]

RESEARCH DESIGN AND PROCEDURES FOR THE SURVEYS OF SENIORS

The data from high school seniors are collected during the spring of each year; data collection began with the class of 1975. Each year's data collection takes place in approximately 125 to 145 public and private high schools selected to provide an accurate representative cross-section of high school seniors throughout the coterminous United States (see Figure 1).

The population under study. There are several reasons for choosing the senior year of high school as an optimal point for monitoring the drug use and related attitudes of youth. First, the completion of high school represents the end of an important developmental stage in this society, since it demarcates both the end of universal public education and, for many, the end of living in the parental home. Therefore, it is a logical point at which to take stock of the cumulated influences of these two environments on American youth. Further, the completion of high school represents the jumping-off point from which young people diverge into widely differing social environments and experiences so senior year represents a good time at which to take a "before" measure upon which to calculate changes which may be attributable to the many environmental and role transitions which occur in young adulthood. Finally, there are some important practical advantages to building a system of data collections around samples of high school seniors. The need for systematically repeated, large-scale samples from which to make reliable estimates of change requires that considerable stress be laid on cost efficiency as well as feasibility. The last year of high school constitutes the final point at which a reasonably good national sample of an age-specific cohort can be drawn and studied economically.

The omission of dropouts. One limitation in the original study design had been the exclusion of those young men and women who drop out of high school before graduation—between 15 and 20 percent of each age cohort nationally, according to U.S. Census statistics. Clearly, the omission of high school dropouts introduces biases in the estimation of certain characteristics of the entire age group; however, for most purposes, the small proportion of dropouts sets outer limits on the bias. Further, since the bias from missing dropouts should remain just about constant from year to year, their omission should

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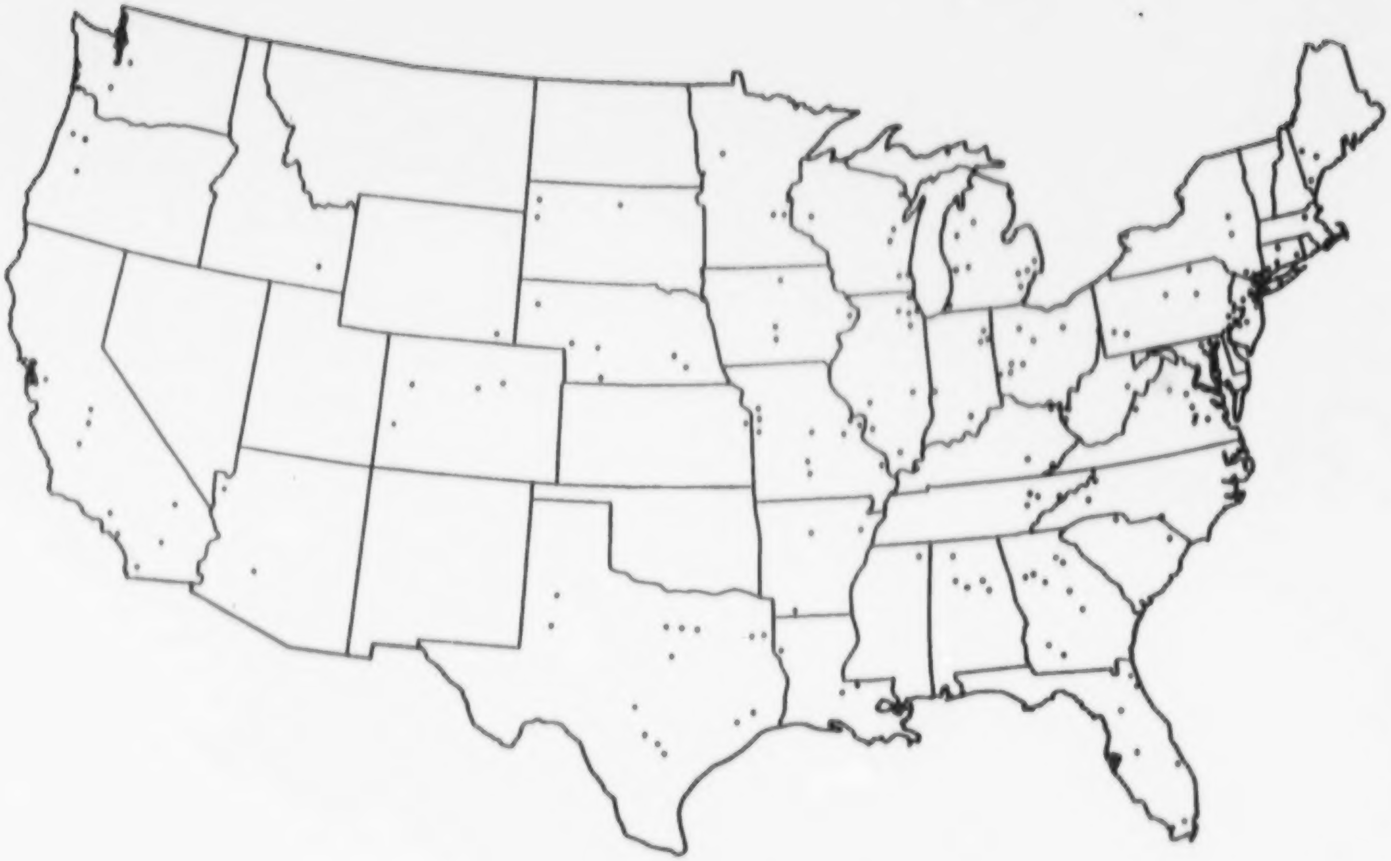
[6] For a more detailed description of the study design, see Bachman, J.G., Johnston, L.D., & O'Malley, P.M. (1991). *Monitoring the Future project after seventeen years: Design and procedures.* (Monitoring the Future Occasional Paper 33.) Ann Arbor, MI: Institute for Social Research.

FIGURE 1

Counties Included in One Year's Data Collection



NOTE: Counties may contain multiple schools and up to three grade levels each.

introduce little or no bias in *change* estimates. Indeed, we believe the changes observed over time for those who finish high school are likely to parallel the changes for dropouts in most instances. Appendix A to this volume addresses the likely effects of the exclusion of dropouts on estimates of prevalence of drug use and trends in drug use among the entire age cohort; the reader is referred there for a more detailed discussion of this issue.

Sampling procedures. A multi-stage random sampling procedure is used for securing the nationwide sample of high school seniors each year. Stage 1 is the selection of particular geographic areas, Stage 2 the selection (with probability proportionate to size) of one or more high schools in each area, and Stage 3 the selection of seniors within each high school. Within each school, up to about 350 seniors may be included. In schools with fewer seniors, the usual procedure is to include all of them in the data collection. In larger schools, a subset of seniors is selected either by randomly sampling entire classrooms or by some other random method that is judged to be unbiased. Weights are assigned to compensate for differential probabilities of selection at each stage. Final weights are normalized to average 1.0 (so that the weighted number of cases equals the unweighted number of cases overall). This three-stage sampling procedure has yielded the numbers of participating schools and students over the years shown in Table 2.

Questionnaire administration. About ten days before the administration, the seniors are given flyers explaining the study. The actual questionnaire administrations are conducted by the local Institute for Social Research representatives and their assistants, following standardized procedures detailed in a project instruction manual. The questionnaires are administered in classrooms during a normal class period whenever possible; however, circumstances in some schools require the use of larger group administrations.

Questionnaire format. Because many questions are needed to cover all of the topic areas in the study, much of the questionnaire content intended for high school seniors is divided into six different questionnaire forms which are distributed to participants in an ordered sequence that ensures six virtually identical subsamples. (Five questionnaire forms were used between 1975 and 1988.) About one-third of each questionnaire form consists of key or "core" variables which are common to all forms. All demographic variables, and nearly all of the drug *use* variables included in this report, are contained in this core set of measures. Many of the questions dealing with attitudes, beliefs, and perceptions of relevant features of the social environment are in a single form only, and are thus based on one-sixth as many cases (approximately 2,600) in 1989-1995 or one-fifth as many cases in 1975-1988 (approximately 3,300). All tables in this report give the sample sizes upon which the statistics are based, stated in terms of weighted numbers of cases (which are roughly equivalent to the actual numbers of cases).

RESEARCH DESIGN AND PROCEDURES FOR THE SURVEYS OF LOWER GRADES

Beginning in 1991 the study was expanded to include nationally representative samples of eighth and tenth grade students. These are now conducted on an annual basis as are follow-up surveys (at two-year intervals) of representative sub-samples from each year's sample of eighth grades and tenth grades. The first such follow-ups were implemented in 1993.

TABLE 2

Sample Sizes and Response Rates

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995
												Twelfth Grade									
Number public schools	111	108	108	111	111	107	109	116	112	117	115	113	117	113	111	114	117	120	121	119	120
Number private schools	14	15	16	20	20	20	19	21	22	17	17	16	18	19	22	23	19	18	18	20	24
Total number schools	125	123	124	131	131	127	128	137	134	134	132	129	135	132	133	137	136	138	139	139	144
Total number students	15,791	16,678	18,436	18,924	16,662	16,524	18,267	18,348	16,947	16,499	16,502	15,713	16,843	16,795	17,142	15,676	15,483	16,251	16,763	15,929	15,876
Student response rate	78%	77%	79%	83%	82%	82%	81%	83%	84%	83%	84%	83%	84%	83%	86%	86%	83%	84%	84%	84%	84%
												Tenth Grade									
Number public schools	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	107	106	111	116	117
Number private schools	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14	19	17	14	22
Total number schools	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	125	128	130	139
Total number students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14,996	14,997	15,516	16,080	17,285
Student response rate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	87%	88%	86%	88%	87%
												Eighth Grade									
Number public schools	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	131	133	126	116	118
Number private schools	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31	26	30	34	34
Total number schools	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	162	159	156	150	152
Total number students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17,844	19,015	18,820	17,708	17,929
Student response rate	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90%	90%	90%	89%	89%

SOURCE: The Monitoring the Future Study, the University of Michigan.

In general, the procedures used for the annual in-school surveys of eighth and tenth grade students closely parallel those used for high school seniors, including the procedures for selecting schools and students, questionnaire administrations, and questionnaire formats. A major exception is that only two different questionnaire forms are used, rather than the six used with seniors. Identical forms are used for both eighth and tenth grades, and, for the most part, questionnaire content is drawn from the twelfth grade questionnaires. Thus, key demographic variables and measures of drug use and related attitudes and beliefs are generally identical for all three grades. The two forms used in both eighth and tenth grades have a common core (Parts B and C) that parallels the core used in twelfth grade. Many fewer questions about lifestyles and values are included in these forms than in the twelfth grade forms, in part because we think that many of these attitudes are likely to be more fully formed by twelfth grade, and therefore are best monitored there. For the national survey of eighth graders, approximately 160 schools (mostly junior high schools and middle schools) are sampled, and approximately 18,000 to 19,000 students are surveyed. For the tenth graders, approximately 130 high schools are sampled, and approximately 16,000 students are surveyed.

The research design calls for follow-up surveys of subsamples of the eighth and tenth graders participating in the study, carried out at two-year intervals, similar to the senior follow-up samples. In 1991-1994, this plan influenced the design of the cross-sectional studies of eighth and tenth graders in two important ways. First, in order to "capture" many of the eighth grade participants two years later in the normal tenth grade cross-sectional study for that year, we selected the eighth grade schools by first drawing a sample of high schools and then selecting a sample of their feeder schools which contained eighth graders. This extra stage in the sampling process meant that many of the eighth grade participants in, say, the 1991 cross-sectional survey were also participants in the 1993 cross-sectional survey of tenth graders. Thus, a fair amount of panel data were generated at no additional cost. However, having followed this design in 1993, we concluded that the saving in follow-up costs did not justify the complexities in sampling, administration, and interpretation. Therefore, beginning in 1995, we changed to a more simplified design in which eighth grade schools were drawn independently of the tenth grade school sample, and follow-ups of eighth graders were completed by mail. All follow-ups after 1994 are done this way.

RESEARCH DESIGN AND PROCEDURES FOR THE FOLLOW-UP SURVEYS OF SENIORS

Beginning with the graduating class of 1976, each senior class has been followed up annually after high school on a continuing basis, for seven follow-up data collections, which corresponds to their reaching a modal age of 32.[7] From the roughly 15,000 to 17,000 seniors originally participating in a given class, a representative sample of 2,400 individuals is chosen for follow-up. In order to ensure sufficient numbers of drug users in the follow-up surveys, those fitting certain criteria of current drug use (that is, those reporting 20 or more occasions of using marijuana, or any use of any of the other illicit drugs, in the previous 30 days) are selected with higher probability (by a factor of 3.0) than the remaining seniors. Differential weighting then is used in all follow-up analyses to compensate for these differential sampling probabilities. Because those in the drug-using stratum receive a weight of only .33 in the calculation of all statistics to compensate for their over representation, the actual numbers of follow-up cases are somewhat larger than the weighted numbers reported in the tables.

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[7] Further follow-ups will occur at half-decade intervals, beginning with age 35.

The 2,400 selected respondents from each class are randomly assigned to one of two matching groups of 1,200 each; one group is surveyed on even-numbered calendar years, while the other group is surveyed on odd-numbered years. This two-year cycle is intended to reduce respondent burden, and thus yield a better retention rate across the years.

Follow-up procedures. Using information provided by respondents at the time of the senior survey (name, address, phone number, and the name and address of someone who would always know how to reach them), mail contacts are maintained for the subset who are selected for inclusion in the follow-up panels. Newsletters are sent each year, and name and address corrections are requested. The questionnaires are sent by certified mail in the spring of each year. A check for $5.00, made payable to the respondent, is attached to the front of each questionnaire.[8] Reminder letters and postcards go out at fixed intervals thereafter; finally, those not responding receive a prompting phone call from the Survey Research Center's phone interviewing facility in Ann Arbor. If requested, a second copy of the questionnaire is sent; but no questionnaire content is administered by phone.

Panel retention rates. To date an average of about 80% of those selected for inclusion in follow-up panels have returned questionnaires in the first follow-up after high school. The retention rate declines with time, as would be expected. The 1995 panel retention from the class of 1981—the oldest of the panels, now aged 32 (14 years past their first data collection in high school)—was 60%.

Corrections for panel attrition. Since, to a modest degree, attrition is associated with drug use, we have introduced corrections into the prevalence estimates presented here for the follow-up panels. These raise the prevalence estimates from what they would be uncorrected, but only slightly. We believe the resulting estimates to be the most accurate obtainable for the population of high school senior graduates but still low for the age group as a whole, due to the omission of dropouts and absentees from the population covered by the original panels.[9]

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[8] Note that, beginning with the Class of 1992, the follow-up checks have been raised to $10.00 to compensate for the effects of inflation over the life of the study. An experiment conducted on recent classes suggested that the increased payment was justified based on the increased panel retention it achieved.

[9] The intent of the weighting process is to correct for the effects of differential attrition on follow-up drug use estimates. Different weights are used for different substances. Cigarettes, alcohol, and marijuana each have one weight for every follow-up of each graduating class. The weights are based on the observed differences in the distribution on an index of use of the relevant substance based on the follow-up sample compared to the distribution based on the full base-year sample. For example, the distribution on the index of marijuana use in the 1988 follow-up of approximately 1,000 respondents from the class of 1976 was compared to the original 1976 base-year distribution for the entire participating base-year class of 17,000 respondents; and weights were derived which, when applied to the base-year data for only those participating in the 1988 follow-up, would reproduce the original base-year frequency distribution. A similar procedure is used to determine a weight for all illicits other than marijuana combined. In this case, however, an average weight is derived across graduating classes. Thus, the same weight is applied, for example, to all respondents in the follow-up of 1988, regardless of when they graduated from high school.

REPRESENTATIVENESS AND VALIDITY

School participation. Schools are invited to participate in the study for a two-year period. With very few exceptions, each school from the original sample participating in the first year has agreed to participate for the second. Each year thus far, from 58% to 80% of the high schools invited to participate initially have agreed to do so; for each school refusal, a similar school (in terms of size, geographic area, urbanicity, etc.) is recruited as a replacement.[10] The selection of replacement schools almost entirely removes problems of bias in region, urbanicity, and the like, that might result from certain schools refusing to participate. Other potential biases could be more subtle, however. If, for example, it turned out that most schools with "drug problems" refused to participate, that would seriously bias the sample. And if any other single factor were dominant in most refusals, that also might suggest a source of serious bias. In fact, however, the reasons for a school refusing to participate are varied and are often a function of happenstance events specific to that particular year; only a very small proportion specifically object to the drug content of the survey. Thus we feel quite confident that school refusals have not seriously biased the surveys.

At each grade level, schools are selected in such a way that half of each year's sample is comprised of schools which participated the previous year, and half is comprised of schools which will participate the next year. This staggered half-sample design is used to check on possible errors in the year-to-year trend estimates due to school turnover. For example, separate sets of one-year trend estimates are computed for seniors using first that half-sample of schools which participated in both 1993 *and* 1994, then the half-sample which participated in both 1994 *and* 1995, and so on. Thus, each one-year trend estimate derived in this way is based on a constant set of at least 65 schools. When the resulting trend data (examined separately for each class of drugs) are compared with trends based on the total samples of schools, the results are highly similar, indicating that the trend estimates are little affected by turnover or shifting refusal rates in the school samples. As would be expected, the absolute prevalence estimates for a given year are not as accurate using just the half-sample, however.

Student participation. In 1995, completed questionnaires were obtained from 89% of all sampled students in eighth grade, 87% in tenth grade, and 84% in twelfth grade. (See Table 2 for response rates in earlier years). The single most important reason that students are missed is absence from class at the time of data collection; in most cases, it is not workable to schedule a special follow-up data collection for absent students. Students with fairly high rates of absenteeism also report above-average rates of drug use; therefore, there is some degree of bias introduced into the prevalence estimates by missing the absentees. Much of that bias could be corrected through the use of special weighting based on the reported absentee rates of the students who *did* respond; however, we decided not to use such a weighting procedure because the bias in overall drug use estimates was determined to be quite small, and because the necessary weighting procedures would have introduced greater sampling variance in the estimates. Appendix A in an earlier report[11] provides a discussion of this point and Appendix A to the present report shows trend and prevalence estimates which would result if corrections for absentees had been included.

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[10] For the years 1991-1993, response rates for the junior high and middle schools which produce the eighth grade samples were a little more complicated to calculate. Calculation of the response rates for Monitoring the Future eighth grade schools surveyed in 1991 and 1992 (and half of those surveyed in 1993) is complicated by the fact that they were sampled by "network" (or cluster), based on the high school into which they feed. We first drew a representative sample of tenth grade schools, then sampled eighth grade schools from the set of feeder schools to each high school. If there were more than two eighth grade schools feeding into a selected high school, we sampled two schools. If either of those schools declined, we replaced that school with another school in the same network of feeder schools. If no school in the network agreed to participate, then we counted that as a refusal; if only one school in a network agreed to participate, but failed to meet a minimum size criterion of approximately one-third of combined enrollment of the chosen schools, that was also counted as a refusal. If only one of the schools agreed to participate, and that one represents at least one-third the combined enrollment of the chosen schools, then we accepted that school, and reweighted appropriately. Many networks, of course, have only one feeder eighth grade school in the network, in which case, a school refusal is equivalent to a network refusal. Response rates for the 1991 and 1992 eighth grade by network were: 74% and 69%, respectively.

Of course, some students are not absent from class, but simply refuse when asked to complete a questionnaire. However, the proportion of explicit refusals amounts to less than 1% of the target sample.

Sampling accuracy of the estimates. Confidence intervals (95%) are provided in Tables 3a-3d (Chapter 4) for lifetime, annual, 30-day, and daily prevalence for eighth, tenth, and twelfth grade students. As can be seen in Table 3a, confidence intervals for lifetime prevalence for seniors average about ±1% across a variety of drug classes. This means that if all schools and all seniors in the 48 coterminous states had participated, the results from such a massive survey should be within about one percentage point of our present findings for most drugs at least 95 times out of 100. This is a high level of sampling accuracy, and is one that should permit the detection of fairly small changes from one year to the next. Confidence intervals for past twelve months, past thirty days, and daily use are generally smaller than those for lifetime use. In general, confidence intervals for eighth and tenth graders are very similar to those observed for twelfth graders. Some drugs are measured on only one or two forms (smokeless tobacco, PCP, nitrites, and others, as indicated in Table 1 footnotes); these drugs will have larger confidence intervals due to their smaller sample sizes. Appendix C contains information on how the interested reader may calculate confidence intervals around point estimates, and statistics for comparing trends across time or difference between subgroups.

VALIDITY OF THE MEASURES OF SELF-REPORTED DRUG USE

The question always arises whether sensitive behaviors like drug use are honestly reported. Like most studies dealing with sensitive behaviors, we have no direct, totally objective validation of the present measures; however, the considerable amount of inferential evidence that exists strongly suggests that the self-report questions produce largely valid data. A more complete discussion of the contributing evidence which leads to this conclusion may be found in other publications; here we will only briefly summarize the evidence.[12]

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[11] Johnston, L.D., O'Malley, P.M., & Bachman, J.G. (1984). *Drugs and American high school students: 1975-1983.* DHHS (ADM) 85-1374. Washington, D.C.: U.S. Government Printing Office.

[12] Johnston, L.D., & O'Malley, P.M. (1985). Issues of validity and population coverage in student surveys of drug use. In B.A. Rouse, N.J. Kozel, & L.G. Richards (Eds.), *Self-report methods of estimating drug use: Meeting current challenges to validity* (NIDA Research Monograph No. 57 (ADM) 85-1402). Washington, D.C.: U.S. Government Printing Office; Johnston, L.D., O'Malley, P.M., & Bachman, J.G. (1984). *Drugs and American high school students: 1975-1983.* DHHS (ADM) 85-1374. Washington, D.C.: U.S. Government Printing Office; Wallace, J.M., Jr., & Bachman, J.G. (1993). Validity of self-reports in student-based studies on minority populations: Issues and concerns. In M. de LaRosa (Ed.), *Drug abuse among minority youth: Advances in research and methodology.* NIDA Research Monograph. Rockville, MD: National Institute on Drug Abuse.

First, using a three-wave panel design, we established that the various measures of self-reported drug use have a high degree of reliability—a necessary condition for validity.[13] In essence, this means that respondents were highly consistent in their self-reported behaviors over a three- to four-year time interval. Second, we found a high degree of consistency among logically related measures of use within the same questionnaire administration. Third, the proportion of seniors reporting some illicit drug use by senior year has reached two-thirds of all respondents in peak years and nearly as high as 80% in some follow-up years, which constitutes *prima facie* evidence that the degree of under reporting must be very limited. Fourth, the seniors' reports of use by their unnamed friends—about whom they would presumably have less reason to distort—has been highly consistent with self-reported use in the aggregate in terms of both prevalence and trends in prevalence, as will be discussed later in this report. Fifth, we have found self-reported drug use to relate in consistent and expected ways to a number of other attitudes, behaviors, beliefs, and social situations—in other words, there is strong evidence of "construct validity." Sixth, the missing data rates for the self-reported use questions are only very slightly higher than for the preceding nonsensitive questions, in spite of the explicit instruction to respondents to leave blank those drug use questions they felt they could not answer honestly. And seventh, the great majority of respondents, when asked, say they would answer such questions honestly if they were users.

This is not to argue that self-reported measures of drug use are valid in all cases. In the present study we have gone to great lengths to create a situation and set of procedures in which students feel that their confidentiality will be protected. We have also tried to present a convincing case as to why such research is needed. We think the evidence suggests that a high level of validity has been obtained. Nevertheless, insofar as there exists any remaining reporting bias, we believe it to be in the direction of under reporting. Thus, we believe our estimates to be lower than their true values, even for the obtained samples, but not substantially so.

Consistency and the measurement of trends. One further point is worth noting in a discussion of the validity of the findings. The Monitoring the Future project is designed to be sensitive to changes from one time period to another. Accordingly, the measures and procedures have been standardized and applied consistently across each data collection. To the extent that any biases remain because of limits in school and/or student participation, and to the extent that there are distortions (lack of validity) in the responses of some students, it seems very likely that such problems will exist in much the same way from one year to the next. In other words, biases in the survey estimates will tend to be consistent from one year to another, which means that our measurement of *trends* should be affected very little by any such biases. The smooth and consistent nature of most trend curves reported for the various drugs provides rather compelling empirical support for this assertion.

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[13] O'Malley, P.M., Bachman, J.G., & Johnston, L.D. (1983). Reliability and consistency in self-reports of drug use. *International Journal of the Addictions, 18*, 805-824.

Chapter 4

PREVALENCE OF DRUG USE AMONG EIGHTH, TENTH, AND TWELFTH GRADE STUDENTS

In this chapter we present the levels of drug use reported by the national samples of eighth, tenth, and twelfth grade students surveyed in 1995. Prevalence and frequency of use data are included for lifetime use, use in the past year, and use in the past month. The prevalence of current daily use also is provided. In addition, comparisons are given for key subgroups in the population based on six cross-break dimensions: sex, college plans, region of the country, population density (or urbanicity), socioeconomic status (as measured by the average education level of the parents), and racial/ethnic identification.

It should be noted that all of the prevalence statistics given in this section are based on students in attendance on the day of the survey administration. Selected prevalence rate estimates for twelfth grade students, reflecting adjustments for absentees, as well as for dropouts, may be found in Appendix A to this report. (Twelfth graders had 16% absent from the 1995 administration.) For eighth and tenth grades the adjustments for absenteeism and dropping out would be much smaller than those shown in Appendix A for twelfth grade, since eighth and tenth graders have lower rates of absenteeism (11% and 13%, respectively) and much lower rates of dropping out.

PREVALENCE AND FREQUENCY OF DRUG USE IN 1995: ALL STUDENTS

Lifetime, Annual, and Monthly Prevalence

Table 4a provides *prevalence* rates for the use of all drugs at all three grade levels in lifetime, past twelve months, past 30 days, and daily in past 30 days. *Frequency* of use for each drug within each prevalence period is provided in Tables 5a and 5b; Figure 2 presents the drugs ranked by lifetime prevalence for each of the three grade levels. Tables 3a-d provide the 95% confidence intervals around the lifetime, annual, 30-day, and daily prevalence estimates for each drug, taking into account the effects of sample stratification, clustering, and unequal weighting.

- Slightly less than half of all seniors (48%) report ***any illicit drug use*** at some time in their lives. (See Table 4a). Some 41% of tenth graders and 29% of eighth graders say they have used an illicit drug at some time.[14]

- Of all the students in each grade reporting some illicit drug use in their lifetime, a significant proportion reported using *only* ***marijuana***: 34%

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[14] For twelfth graders use of "other illicit drugs" includes any use of hallucinogens, cocaine, or heroin ***or*** any use of other opiates, stimulants, barbiturates, methaqualone (excluded since 1990), or tranquilizers that are not under a doctor's orders. For eighth and tenth graders the use of other opiates and barbiturates has been excluded, both from the illicit drug indexes and from separate presentation in this volume. Questions on these drugs were included in the questionnaires given to eighth and tenth graders, but the results led us to believe that some respondents were including nonprescription drugs in their answers, resulting in exaggerated prevalence rates.

TABLE 3a

Ninety-Five Percent Confidence Limits: Lifetime Prevalence Eighth, Tenth, and Twelfth Graders, 1995

(Approx. Ns: 8th grade = 17,500, 10th grade = 17,000, 12th grade = 15,400)

	8th Grade			10th Grade			12th Grade		
	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit
Any Illicit Drug[a]	26.9	28.5	30.1	38.9	40.9	42.9	45.8	48.4	51.0
Any Illicit Drug[a] Other than Marijuana	17.5	18.8	20.2	22.7	24.3	25.9	26.2	28.1	30.0
Any Illicit Drug[a,b] Including Inhalants	36.4	38.1	39.9	43.9	45.9	48.0	48.7	51.5	54.3
Marijuana/Hashish	18.5	19.9	21.4	32.2	34.1	36.1	39.2	41.7	44.3
Inhalants[b]	20.3	21.6	23.0	17.7	19.0	20.3	16.0	17.4	18.9
Inhalants, Adjusted[b,c]	—	—	—	—	—	—	16.4	17.8	19.3
Amyl & Butyl Nitrites[d]	—	—	—	—	—	—	1.0	1.5	2.3
Hallucinogens	4.4	5.2	6.1	8.3	9.3	10.4	11.4	12.7	14.1
Hallucinogens, Adjusted[c]	—	—	—	—	—	—	11.8	13.1	14.5
LSD	3.7	4.4	5.2	7.4	8.4	9.5	10.5	11.7	13.0
Halluginogens Other than LSD	2.1	2.5	2.9	3.4	3.9	4.4	4.8	5.4	6.0
PCP[d]	—	—	—	—	—	—	1.9	2.7	3.7
Cocaine	3.5	4.2	5.0	4.2	5.0	5.9	5.1	6.0	7.0
Crack	2.4	2.7	3.1	2.5	2.8	3.2	2.6	3.0	3.4
Other Cocaine[e]	2.8	3.4	4.1	3.7	4.4	5.2	4.1	5.1	6.3
Heroin[f]	2.0	2.3	2.6	1.4	1.7	2.0	1.3	1.6	1.9
Other Opiates[g]	—	—	—	—	—	—	6.5	7.2	7.9
Stimulants[g]	12.0	13.1	14.2	16.2	17.4	18.7	14.1	15.3	16.6
Crystal Meth. (Ice)[h]	—	—	—	—	—	—	3.2	3.9	4.7
Sedatives[g,i]	—	—	—	—	—	—	6.9	7.6	8.3
Barbiturates[g]	—	—	—	—	—	—	6.7	7.4	8.1
Methaqualone[d,g]	—	—	—	—	—	—	0.7	1.2	2.0
Tranquilizers[g]	4.0	4.5	5.1	5.4	6.0	6.6	6.4	7.1	7.8
Alcohol	52.8	54.5	56.2	68.9	70.5	72.0	79.2	80.7	82.1
Been Drunk[b]	23.9	25.3	26.8	45.2	46.9	48.6	60.1	63.2	66.2
Cigarettes	44.7	46.4	48.1	55.9	57.6	59.3	62.4	64.2	65.9
Smokeless Tobacco[d]	18.1	20.0	22.0	25.4	27.6	29.9	26.9	30.9	35.2
Steroids[b]	1.7	2.0	2.3	1.7	2.0	2.3	1.8	2.3	3.0

NOTE: '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] For 12th graders only: Use of "any illicit drugs" includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin, or any use of other opiates, stimulants, barbiturates, or tranquilizers not under a doctor's orders. For 8th and 10th graders only: The use of other opiates and barbiturates has been excluded, because these younger respondents appear to overreport use (perhaps because they include the use of nonprescription drugs in their answers).
[b] For 12th graders only: Data based on five of six forms; N is five-sixths of N indicated.
[c] For 12th graders only: Adjusted for underreporting of certain drugs. See text for details.
[d] For 8th and 10th graders only: Data based on one of two forms; N is one-half of N indicated. For 12th graders only: Data based on one of six forms. N is one-sixth of N indicated.
[e] For 12th graders only: Data based on four of six forms; N is four-sixths of N indicated.
[f] In 1995, the heroin question was changed in half of the forms. Separate questions were asked for use with injection and without injection. Data presented here represent the combined data from all forms.
[g] Only drug use which was not under a doctor's orders is included here.
[h] For 12th graders only: Data based on two of six forms; N is two-sixths of N indicated.
[i] For 12th graders only: Data based on six forms adjusted by one form data.

TABLE 3b

Ninety-Five Percent Confidence Limits: Annual Prevalence Eighth, Tenth, and Twelfth Graders, 1995

(Approx. Ns: 8th grade = 17,500, 10th grade = 17,000, 12th grade = 15,400)

	8th Grade			10th Grade			12th Grade		
	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit
Any Illicit Drug[a]	20.1	21.4	22.8	31.6	33.3	35.1	36.6	39.0	41.5
Any Illicit Drug[a] Other than Marijuana	11.6	12.6	13.7	16.3	17.5	18.8	17.9	19.4	21.0
Any Illicit Drug[a,b] Including Inhalants	25.7	27.1	28.6	33.8	35.6	37.4	37.5	40.2	42.9
Marijuana/Hashish	14.6	15.8	17.0	27.0	28.7	30.4	32.3	34.7	37.1
Inhalants[b]	11.8	12.8	13.8	8.8	9.6	10.5	7.1	8.0	9.0
Inhalants, Adjusted[b,c]	—	—	—	—	—	—	7.5	8.4	9.4
Amyl & Butyl Nitrites[d]	—	—	—	—	—	—	0.7	1.1	1.7
Hallucinogens	3.0	3.6	4.3	6.4	7.2	8.1	8.3	9.3	10.4
Hallucinogens, Adjusted[c]	—	—	—	—	—	—	8.7	9.7	10.8
LSD	2.7	3.2	3.8	5.7	6.5	7.4	7.5	8.4	9.4
Hallucinogens Other than LSD	1.4	1.7	2.0	2.4	2.8	3.2	3.3	3.8	4.3
PCP[d]	—	—	—	—	—	—	1.3	1.8	2.5
Cocaine	2.1	2.6	3.2	2.9	3.5	4.2	3.4	4.0	4.7
Crack	1.4	1.6	1.8	1.6	1.8	2.1	1.8	2.1	2.4
Other Cocaine[e]	1.7	2.1	2.6	2.5	3.0	3.6	2.7	3.4	4.3
Heroin[f]	1.2	1.4	1.6	0.9	1.1	1.3	0.9	1.1	1.3
Other Opiates[g]	—	—	—	—	—	—	4.2	4.7	5.3
Stimulants[g]	7.9	8.7	9.6	11.0	11.9	12.9	8.4	9.3	10.3
Crystal Meth. (Ice)[h]	—	—	—	—	—	—	1.9	2.4	3.0
Sedatives[g,i]	—	—	—	—	—	—	4.4	4.9	5.5
Barbiturates[g]	—	—	—	—	—	—	4.2	4.7	5.3
Methaqualone[d,g]	—	—	—	—	—	—	0.4	0.7	1.2
Tranquilizers[g]	2.3	2.7	3.1	3.6	4.0	4.5	3.9	4.4	5.0
Alcohol	43.6	45.3	47.0	61.8	63.5	65.1	72.1	73.7	75.3
Been Drunk[b]	17.1	18.4	19.7	36.8	38.5	40.2	49.4	52.5	55.6
Cigarettes	—	—	—	—	—	—	—	—	—
Smokeless Tobacco[d]	—	—	—	—	—	—	—	—	—
Steroids[h]	0.8	1.0	1.2	1.0	1.2	1.4	1.1	1.5	2.0

NOTE: '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] For 12th graders only: Use of "any illicit drugs" includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin, or any use of other opiates, stimulants, barbiturates, or tranquilizers not under a doctor's orders. For 8th and 10th graders only: The use of other opiates and barbiturates has been excluded, because these younger respondents appear to overreport use (perhaps because they include the use of nonprescription drugs in their answers).
[b] For 12th graders only: Data based on five of six forms; N is five-sixths of N indicated.
[c] For 12th graders only: Adjusted for underreporting of certain drugs. See text for details.
[d] For 8th and 10th graders only: Data based on one of two forms; N is one-half of N indicated. For 12th graders only: Data based on one of six forms. N is one-sixth of N indicated.
[e] For 12th graders only: Data based on four of six forms; N is four-sixths of N indicated.
[f] In 1995, the heroin question was changed in half of the forms. Separate questions were asked for use with injection and without injection. Data presented here represent the combined data from all forms.
[g] Only drug use which was not under a doctor's orders is included here.
[h] For 12th graders only: Data based on two of six forms; N is two-sixths of N indicated.
[i] For 12th graders only: Data based on six forms adjusted by one form data.

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TABLE 3c

Ninety-Five Percent Confidence Limits: Thirty-Day Prevalence Eighth, Tenth, and Twelfth Graders, 1995

(Approx. Ns: 8th grade = 17,500, 10th grade = 17,000, 12th grade = 15,400)

	8th Grade			10th Grade			12th Grade		
	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit
Any Illicit Drug[a]	11.4	12.4	13.5	18.9	20.2	21.5	21.9	23.8	25.8
Any Illicit Drug[a] Other than Marijuana	5.9	6.5	7.2	8.1	8.9	9.7	9.0	10.0	11.1
Any Illicit Drug[a,b] Including Inhalants	15.0	16.1	17.3	20.3	21.6	23.0	22.7	24.8	27.0
Marijuana/Hashish	8.3	9.1	10.0	16.0	17.2	18.5	19.4	21.2	23.1
Inhalants[b]	5.6	6.1	6.7	3.1	3.5	4.0	2.8	3.2	3.7
Inhalants, Adjusted[b,c]	—	—	—	—	—	—	3.0	3.5	4.0
Amyl & Butyl Nitrites[d]	—	—	—	—	—	—	0.2	0.4	0.8
Hallucinogens	1.4	1.7	2.1	2.9	3.3	3.8	3.9	4.4	5.0
Hallucinogens, Adjusted[c]	—	—	—	—	—	—	4.0	4.6	5.2
LSD	1.1	1.4	1.7	2.6	3.0	3.5	3.5	4.0	4.6
Halluginogens Other than LSD	0.6	0.8	1.0	0.8	1.0	1.2	1.1	1.3	1.6
PCP[d]	—	—	—	—	—	—	0.3	0.6	1.1
Cocaine	0.9	1.2	1.5	1.4	1.7	2.1	1.5	1.8	2.2
Crack	0.6	0.7	0.9	0.7	0.9	1.1	0.8	1.0	1.2
Other Cocaine[e]	0.8	1.0	1.3	1.1	1.4	1.8	1.0	1.3	1.8
Heroin[f]	0.5	0.6	0.8	0.5	0.6	0.8	0.5	0.6	0.8
Other Opiates[g]	—	—	—	—	—	—	1.5	1.8	2.1
Stimulants[g]	3.8	4.2	4.7	4.8	5.3	5.8	3.5	4.0	4.5
Crystal Meth. (Ice)[h]	—	—	—	—	—	—	0.8	1.1	1.5
Sedatives[g,i]	—	—	—	—	—	—	2.0	2.3	2.6
Barbiturates[g]	—	—	—	—	—	—	1.9	2.2	2.5
Methaqualone[d,g]	—	—	—	—	—	—	0.2	0.4	0.8
Tranquilizers[g]	1.0	1.2	1.4	1.5	1.7	2.0	1.5	1.8	2.1
Alcohol	23.2	24.6	26.1	37.1	38.8	40.5	49.5	51.3	53.1
Been Drunk[b]	7.4	8.3	9.3	19.4	20.8	22.2	30.3	33.2	36.2
Cigarettes	17.8	19.1	20.5	26.4	27.9	29.5	31.8	33.5	35.3
Smokeless Tobacco[d]	5.9	7.1	8.5	8.3	9.7	11.3	9.6	12.2	15.4
Steroids[b]	0.5	0.6	0.8	0.5	0.6	0.8	0.5	0.7	1.0

NOTE: '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] For 12th graders only: Use of "any illicit drugs" includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin, or any use of other opiates, stimulants, barbiturates, or tranquilizers not under a doctor's orders. For 8th and 10th graders only: The use of other opiates and barbiturates has been excluded, because these younger respondents appear to overreport use (perhaps because they include the use of nonprescription drugs in their answers).
[b] For 12th graders only: Data based on five of six forms; N is five-sixths of N indicated.
[c] For 12th graders only: Adjusted for underreporting of certain drugs. See text for details.
[d] For 8th and 10th graders only: Data based on one of two forms; N is one-half of N indicated. For 12th graders only: Data based on one of six forms. N is one-sixth of N indicated.
[e] For 12th graders only: Data based on four of six forms; N is four-sixths of N indicated.
[f] In 1995, the heroin question was changed in half of the forms. Separate questions were asked for use with injection and without injection. Data presented here represent the combined data from all forms.
[g] Only drug use which was not under a doctor's orders is included here.
[h] For 12th graders only: Data based on two of six forms; N is two-sixths of N indicated.
[i] For 12th graders only: Data based on six forms adjusted by one form data.

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TABLE 3d

Ninety-Five Percent Confidence Limits: Daily Prevalence Eighth, Tenth, and Twelfth Graders, 1995

(Approx. Ns: 8th grade = 17,500, 10th grade = 17,000, 12th grade = 15,400)

	8th Grade			10th Grade			12th Grade		
	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit
Marijuana/Hashish	0.6	0.8	1.0	2.5	2.8	3.1	4.0	4.6	5.3
Alcohol									
Daily	0.6	0.7	0.9	1.5	1.7	1.9	3.2	3.5	3.9
5+ drinks in last 2 weeks	13.3	14.5	15.7	22.5	24.0	25.6	28.2	29.8	31.5
Cigarettes									
Daily	8.3	9.3	10.4	15.1	16.3	17.6	20.1	21.6	23.1
1/2 pack+/day	2.9	3.4	4.0	7.5	8.3	9.2	11.4	12.4	13.5
Smokeless Tobacco[a]	0.8	1.2	1.9	2.0	2.7	3.7	2.2	3.6	5.6

NOTE: '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] For 8th and 10th graders only: Data based on one of two forms; N is one-half of N indicated. For 12th graders only: Data based on one of six forms. N is one-sixth of N indicated.

TABLE 4a

A Comparison of Drug Usage Rates Eighth, Tenth, and Twelfth Graders, 1995

	Lifetime			Annual			30-Day			Daily		
Grade	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Approx. N =	*17500*	*17000*	*15400*	*17500*	*17000*	*15400*	*17500*	*17000*	*15400*	*17500*	*17000*	*15400*
Any Illicit Drug[a]	28.5	40.9	48.4	21.4	33.3	39.0	12.4	20.2	23.8	—	—	—
Any Illicit Drug[a] **Other Than Marijuana**	18.8	24.3	28.1	12.6	17.5	19.4	6.5	8.9	10.0	—	—	—
Any Illicit Drug[a,b] **Including Inhalants**	38.1	45.9	51.5	27.1	35.6	40.2	16.1	21.6	24.8	—	—	—
Marijuana/Hashish	19.9	34.1	41.7	15.8	28.7	34.7	9.1	17.2	21.2	0.8	2.8	4.6
Inhalants[b]	21.6	19.0	17.4	12.8	9.6	8.0	6.1	3.5	3.2	0.2	0.1	0.1
Inhalants, Adjusted[b,c]	—	—	17.8	—	—	8.4	—	—	3.5	—	—	—
Amyl/Butyl Nitrites[d]	—	—	1.5	—	—	1.1	—	—	0.4	—	—	0.2
Hallucinogens	5.2	9.3	12.7	3.6	7.2	9.3	1.7	3.3	4.4	0.1	*	0.1
Hallucinogens, Adjusted[c]	—	—	13.1	—	—	9.7	—	—	4.6	—	—	—
LSD	4.4	8.4	11.7	3.2	6.5	8.4	1.4	3.0	4.0	0.1	*	0.1
Hallucinogens Other than LSD	2.5	3.9	5.4	1.7	2.8	3.8	0.8	1.0	1.3	*	*	0.1
PCP[d]	—	—	2.7	—	—	1.8	—	—	0.6	—	—	0.3
Cocaine	4.2	5.0	6.0	2.6	3.5	4.0	1.2	1.7	1.8	0.1	0.1	0.2
Crack	2.7	2.8	3.0	1.6	1.8	2.1	0.7	0.9	1.0	*	*	0.1
Other Cocaine[e]	3.4	4.4	5.1	2.1	3.0	3.4	1.0	1.4	1.3	*	*	0.1
Heroin[f]	2.3	1.7	1.6	1.4	1.1	1.1	0.6	0.6	0.6	*	*	0.1
Other Opiates[g]	—	—	7.2	—	—	4.7	—	—	1.8	—	—	0.1
Stimulants[g]	13.1	17.4	15.3	8.7	11.9	9.3	4.2	5.3	4.0	0.2	0.2	0.3
Crystal Meth. (Ice)[h]	—	—	3.9	—	—	2.4	—	—	1.1	—	—	0.1
Sedatives[g,i]	—	—	7.6	—	—	4.9	—	—	2.3	—	—	0.1
Barbiturates[g]	—	—	7.4	—	—	4.7	—	—	2.2	—	—	0.1
Methaqualone[d,g]	—	—	1.2	—	—	0.7	—	—	0.4	—	—	0.1
Tranquilizers[g]	4.5	6.0	7.1	2.7	4.0	4.4	1.2	1.7	1.8	*	0.1	*
Alcohol												
Any use	54.5	70.5	80.7	45.3	63.5	73.7	24.6	38.8	51.3	0.7	1.7	3.5
5+ drinks in last 2 weeks	—	—	—	—	—	—	—	—	—	14.5	24.0	29.8
Been Drunk[b]	25.3	46.9	63.2	18.4	38.5	52.5	8.3	20.8	33.2	0.2	0.6	1.3
Cigarettes												
Any use	46.4	57.6	64.2	—	—	—	19.1	27.9	33.5	9.3	16.3	21.6
1/2 pack+/day	—	—	—	—	—	—	—	—	—	3.4	8.3	12.4
Smokeless Tobacco[i]	20.0	27.6	30.9	—	—	—	7.1	9.7	12.2	1.2	2.7	3.6
Steroids[h]	2.0	2.0	2.3	1.0	1.2	1.5	0.6	0.6	0.7	*	0.1	0.2

NOTES: '—' indicates data not available. '*' indicates less than .05 percent.
SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] For 12th graders only: Use of "any illicit drugs" includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin, or any use of other opiates, stimulants, barbiturates, or tranquilizers not under a doctor's orders. For 8th and 10th graders only: The use of other opiates and barbiturates has been excluded, because these younger respondents appear to overreport use (perhaps because they include the use of nonprescription drugs in their answers).

[b] For 12th graders only: Data based on five of six forms; N is five-sixths of N indicated.

[c] For 12th graders only: Adjusted for underreporting of certain drugs. See text for details.

[d] For 8th and 10th graders only: Data based on one of two forms; N is one-half of N indicated. For 12th graders only: Data based on one of six forms. N is one-sixth of N indicated.

[e] For 12th graders only: Data based on four of six forms; N is four-sixths of N indicated.

[f] In 1995, the heroin question was changed in half of the forms. Separate questions were asked for use with injection and without injection. Data presented here represent the combined data from all forms.

[g] Only drug use which was not under a doctor's orders is included here.

[h] For 12th graders only: Data based on two of six forms; N is two-sixths of N indicated.

[i] For 12th graders only: Data based on six forms adjusted by one form data.

of all 8th grade users of any illicit drug (or 10% of the total eighth grade sample), 41% of all tenth grade users of any illicit drug (or 17% of the total tenth grade sample), and 42% of the twelfth grader users of any illicit drug (or 20% of the total twelfth grade sample).

- When inhalants are also included in the index of illicit drug use the proportions who might be described as having ever used an illicit drug rise considerably, particularly for eighth graders. The percents using ***any illicit drug including inhalants*** are 38% for eighth graders, 46% for tenth graders, and 52% for twelfth graders.

- ***Marijuana*** is by far the most widely used illicit drug among seniors and tenth graders, and among eighth graders it follows inhalants in terms of lifetime use. Forty-two percent of seniors reported some marijuana use in their lifetime, 35% reported some use in the past year, and 21% reported some use in the past month. Among tenth graders, 34% reported some marijuana use in their lifetime, 29% reported some use in the past year, and 17% reported some use in the past month. Among eighth grade students, marijuana has been used by one in five (20%), with 16% reporting use in the prior year and 9% use in the prior month. For marijuana, current daily use (defined as use on 20 or more occasions in the past 30 days) is also noteworthy. One in twenty 12th graders (4.6%) uses marijuana daily, as do one in forty 10th graders (2.8%) and nearly one in one hundred 8th graders (0.8%).

- ***Inhalants*** have become an important class of drugs, showing the highest lifetime prevalence rate among eighth graders (22%) of any of the illicitly used drugs. In tenth and twelfth grades, inhalants have lifetime prevalence rates of 19% and 17% respectively, making them second to marijuana as the most prevalent of the illicit drugs. However, in terms of current use, inhalants rank lower in the upper grade levels because many who used them at a younger age have discontinued use.

- Inhalants are followed closely in the rankings by ***stimulants***, with lifetime prevalence rates of 13% for eighth graders, 17% for tenth graders, and 15% for twelfth graders.

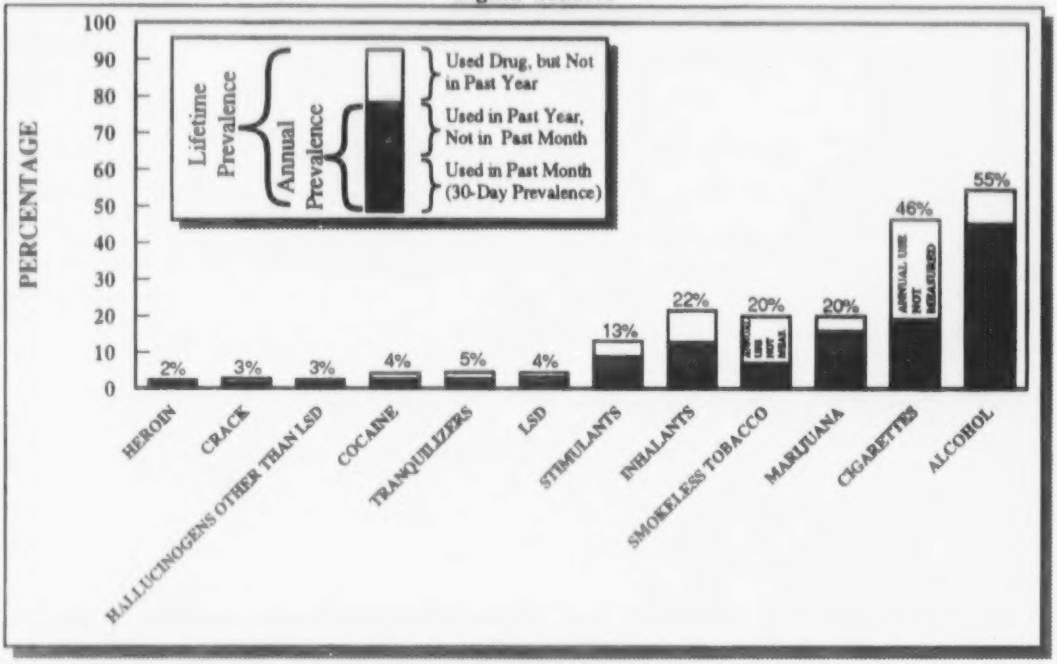
- ***Hallucinogens*** are the next most widely used class of substances. Lifetime prevalence is 5% for eighth graders, 9% for tenth graders, and 13% for twelfth graders, primarily due to the prevalence of LSD use (4%, 8%, and 12%, respectively).

- Less than 2% of seniors (1.5%) have tried the specific classes of inhalants known as ***amyl and butyl nitrites***. These inhalants have been sold legally in the past and go by the street names "poppers" or "snappers" and such brand names as Locker Room and Rush. Use of nitrites was not asked of eighth and tenth grade students.

FIGURE 2

Prevalence and Recency of Use
Various Types of Drugs for Eighth, Tenth, and Twelfth Graders, 1995

Eighth Graders



Tenth Graders

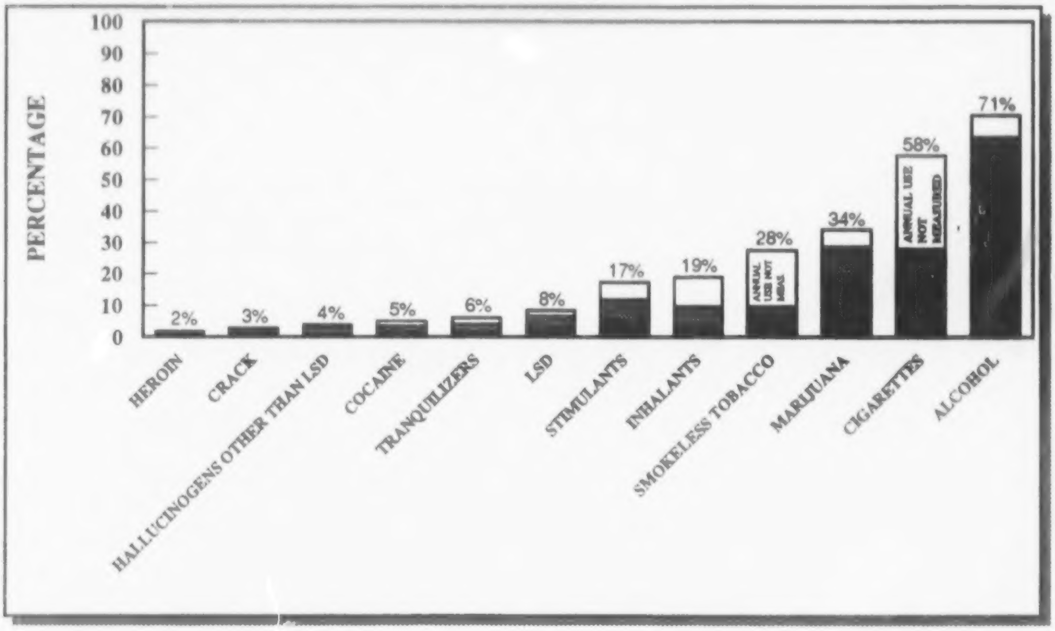
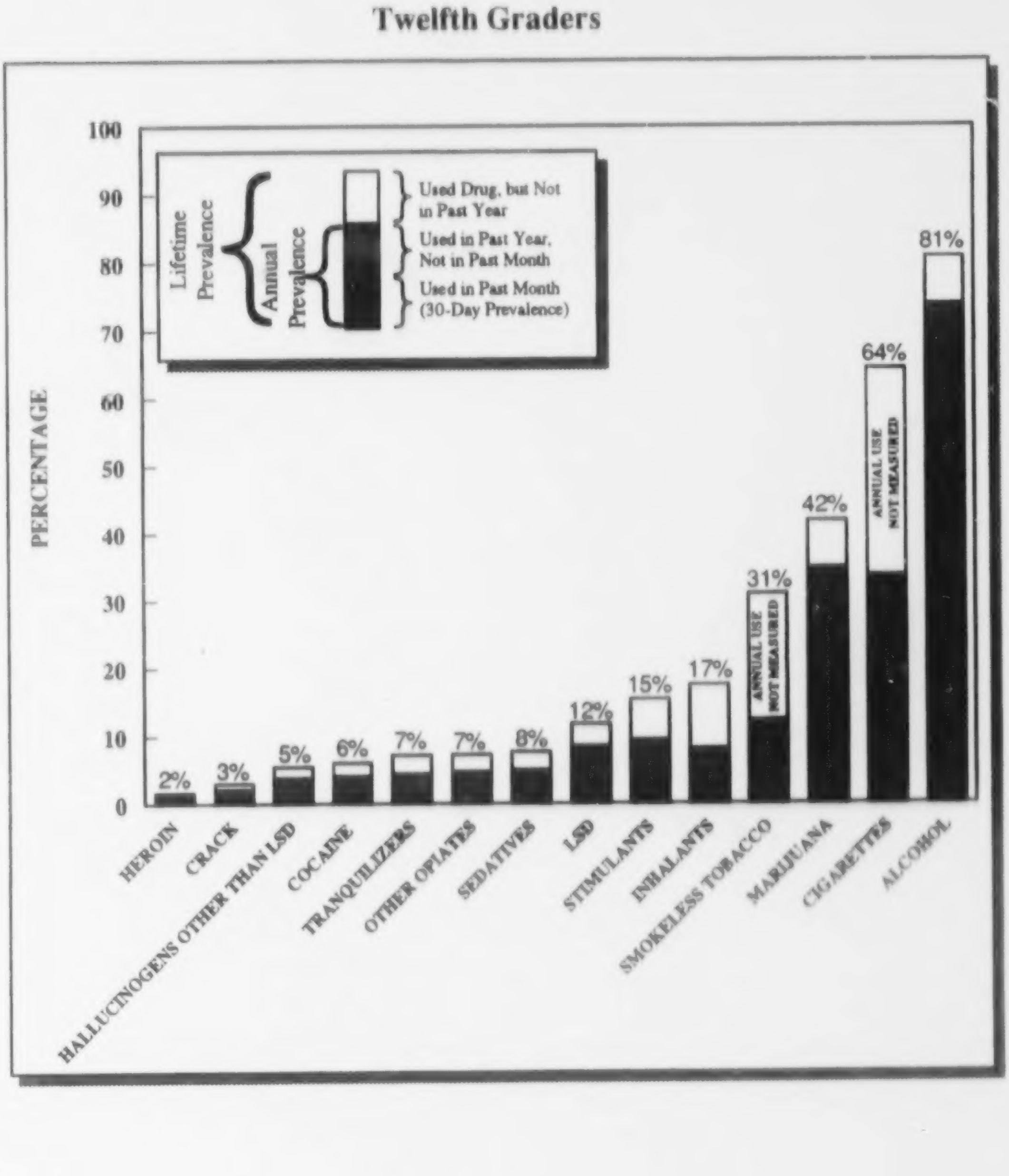


FIGURE 2 (cont.)

Prevalence and Recency of Use
Various Types of Drugs for Eighth, Tenth, and Twelfth Graders, 1995



Because we included questions specifically about nitrite use for the first time in one 1979 senior questionnaire form, we discovered that some users of amyl and butyl nitrites did not report themselves to be inhalant users, although they should have. We were able to make estimates of the degree to which inhalant use was being under reported. As a result, all inhalant prevalence estimates made since then have been corrected for nitrite use. This correction has made very little difference in recent years because of the low rates of nitrite use.[15]

We also discovered in 1979, when specific questions about ***PCP*** use were added, that some users of PCP did not report themselves as users of hallucinogens, even though PCP is explicitly included as an example in the questions about hallucinogens. Thus, from 1979 onward, the ***hallucinogen*** prevalence and trend estimates for seniors also have been adjusted upward to correct for this known under reporting (PCP use is not asked of eighth and tenth graders).[2] Again, this correction has made rather little difference in recent years among seniors, because the rate of PCP use is so low.

- Lifetime prevalence among seniors for the specific hallucinogenic drug ***PCP*** now stands at 2.7%, substantially lower than the lifetime prevalence of the other most widely used hallucinogen, ***LSD*** (11.7%).
- The use of ***cocaine*** now ranks lower than it used to, with lifetime prevalence for eighth, tenth, and twelfth graders at 4.2%, 5.0%, and 6.0%, respectively.
- ***Crack*** is a form of cocaine that comes in small chunks or "rocks" and can be smoked to produce a more rapid and intense high. Crack has a relatively low prevalence in all grade levels; a lifetime prevalence of 2.7% for eighth graders, 2.8% for tenth graders, and 3.0% for twelfth graders.
- Of all students reporting any cocaine use, a significant proportion have some experience with crack: nearly two-thirds of the eighth graders who reported any cocaine use, and over one-half of the tenth and twelfth graders who reported any cocaine use.
- ***Heroin*** is the least commonly used of the illicit drugs for each grade level. Lifetime use is 2.3% for eighth grade students, 1.7% for tenth grade students, and 1.6% for twelfth grade students. The unusual pattern of younger students having a higher prevalence level appears in a number of studies, and may reflect the fact that heroin users are considerably more likely to have left school by senior year. It is also

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[15] Because the data to adjust inhalant and hallucinogen use for seniors are available from only a single questionnaire form in a given year, the original uncorrected variables will be used in most relational analyses. We believe relational analyses will be least affected by these underestimates and that the most serious impact is on prevalence estimates, which have been adjusted appropriately. Today, the very low levels of use for nitrites and PCP–the two drugs which were used to adjust the estimates for inhalants and hallucinogens, respectively–are so low that these adjustments are hardly relevant any longer. Therefore, questions about their use have not been included in the eighth and tenth grade questionnaires.

possible that the "noise" level is higher in the earlier grades, with slightly more false reporting either intentionally or unintentionally.

For many years the heroin available in the United States had such a low purity that the only practical way to ingest it was by injection, usually intravenous injection. However, due to high production at the world level, purity has risen very substantially and use by smoking and snorting was alleged to have become more common. As a result in 1995, we chose to distinguish in our questions on heroin use between use with and without a needle. We found that significant proportions f those reporting any heroin use in the past twelve months indicated using only *without* a needle: nearly a third of the eighth grade users (0.4% out of 1.3% indicating any use), nearly one-half of the tenth grade users (4.5% out of 1.1%) and more than half of the twelfth grade users (0.7% out of 1.2%). In addition, roughly half of the remaining users in each grade report use *both* with and without a needle. See Table 4b.

- ***Tranquilizers*** fall in the middle of the prevalence rankings of illicit drugs, with lifetime prevalence rates of 4.5%, 6.0%, and 7.1% for grades 8, 10, and 12.

- ***Opiates other than heroin*** (7.2% lifetime prevalence) are also in the middle ranking for seniors. (Data for eighth and tenth graders are not reported for opiates other than heroin; see footnote 14.)

- Within the general class of sedatives, the specific drug ***methaqualone*** is used by considerably fewer seniors (1.2% lifetime prevalence) than the much broader subclass of sedatives, ***barbiturates*** (7.4% lifetime prevalence). Because methaqualone use has become so limited, questions about its use have not been included in the eighth and tenth grade questionnaires.

- The illicit drug classes remain in roughly the same order whether ranked by lifetime, annual, or monthly prevalence, as the data in Figure 2 illustrate. The only important change in ranking occurs for ***inhalant use*** among the tenth and twelfth graders, for whom inhalants rank lower in terms of current use than was true for lifetime use, because use of a number of the inhalants, like glues and aerosols, tends to be discontinued at a relatively early age. Among the eighth graders, however, it should be noted that more than one in eight (12.8%) sniffed or "huffed" some inhalant in the prior twelve months, and one in sixteen (6.1%) did so in the 30 days prior to the survey.

- Use of either of the two major licit drugs, alcohol and cigarettes, remains more widespread than use of any of the illicit drugs. Four out of every five students (81%) have at least tried ***alcohol*** by twelfth grade, and half of all twelfth graders (51%) report using it in the month prior to the survey (Table 4a). Even among eighth graders, the number of students who report some alcohol use in their life is high: More than

TABLE 4b

Use of Heroin *with* and *without* a Needle
Eighth, Tenth, and Twelfth Graders, 1995

(Entries are percentages of all respondents)

	Percent who used in:		
	Lifetime	Past 12 months	Past 30 days
Eighth Graders			
Used heroin only with a needle	0.7	0.5	0.2
Used heroin only without a needle	0.7	0.4	0.2
Used heroin both ways	0.8	0.4	0.2
Used heroin at all	2.2	1.3	0.6
Approx. weighted N =	8,700		
Tenth Graders			
Used heroin only with a needle	0.5	0.3	0.2
Used heroin only without a needle	0.7	0.5	0.2
Used heroin both ways	0.4	0.3	0.1
Used heroin at all	1.6	1.1	0.5
Approx. weighted N =	8,500		
Twelfth Graders			
Used heroin only with a needle	0.3	0.2	0.1
Used heroin only without a needle	1.0	0.7	0.4
Used heroin both ways	0.4	0.3	0.2
Used heroin at all	1.7	1.2	0.7
Approx. weighted N =	7,800		

NOTE: Eighth and tenth grade data based on one of two forms; twelfth grade data based on three of six forms.

SOURCE: The Monitoring the Future Study, the University of Michigan.

half (55%) say they have tried alcohol and a quarter (25%) are current drinkers.[16]

- Of greater concern than just any use of alcohol is its use to the point of inebriation: 25% of the eighth graders, 47% of the tenth graders, and 63% of the twelfth graders say they have "***been drunk***" at least once in their life. The prevalence of self-reported drunkenness in the most recent 30 days is 8%, 21%, and 33%, respectively.

- Another measure of heavy drinking asks respondents on how many occasions within the previous two weeks they had consumed ***five or more drinks in a row***. Prevalence rates for this behavior are 15%, 24%, and 30% for the three grades, respectively.[17]

- About two-thirds (64%) of seniors report having tried ***cigarettes*** at some time, and one-third (34%) smoked at least some in the past month. Even among eighth graders, 46% report having tried cigarettes and 19% used in the past month.

- ***Smokeless tobacco*** is used by a surprisingly large number of young people. Among eighth, tenth, and twelfth graders, lifetime prevalence rates are 20%, 28%, and 31%, respectively, while current (past 30 days) prevalence rates are 7%, 10%, and 12%. As will be discussed further below, the rates are considerably higher among boys, who account for most smokeless tobacco use.

- ***Anabolic steroids***, a class of controlled substances, were added to the study in recent years. These drugs bear some resemblance to a number of other drugs in the study in that their distribution and sale are legally controlled and, like those other drugs, they often find their way into an illicit market. They also carry a particular danger for HIV transmission since they are often taken by injection. They differ from all the other drugs discussed here in one important way, however; they are not usually taken for their direct psychoactive effects, though they may have some, but rather for their enhancement of the user's musculature. Clearly their potential unintended consequences, including the transmission of HIV, make their illicit use a public health concern. It is for these reasons that they were added to the study.

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[16] In 1993 the text of the alcohol prevalence questions was changed slightly in half of the forms for all grades to explicitly *exclude* those occasions when the respondent had "just a few sips" of an alcoholic beverage. In 1995 this change was made to the remaining forms. The 1995 data presented here are all based on the revised question. In later tables and graphs in this volume, the 1993 data are presented for both the original question and the revised question. As would be expected, the prevalence rates dropped slightly as a result of this methodological change, with the largest shifts observed in the lifetime prevalence measures and among the eighth grade respondents. See Table 1 to examine the effects of this change.

[17] We have observed that the prevalence of heavy drinking (five or more drinks in a row at least once in the past two weeks) seems inconsistent with eighth grade students' reported prevalence of getting drunk. In 1995, 15% of eighth graders said they had had one or more drinks in a row at least once in the past two weeks. However, only 8% said they had been drunk or very high from drinking in the past 30 days. It seems unlikely that about half of eighth graders who report having five or more drinks in a row would not become intoxicated from such an amount. We suspect that they may be over-reporting their occasions of heavy drinking, perhaps forgetting what "a drink" means, even though the questionnaire explicitly tells them that a drink means a bottle of beer, a glass of wine, a wine cooler, a shot of liquor, or a mixed drink. We believe that the reports of getting "drunk or very high" are likely to be more accurate.

The prevalence rates for anabolic steroids are relatively low at present. For eighth, tenth, and twelfth graders, lifetime prevalence is 2.0%, 2.0%, and 2.3%, while current (past month) prevalence is 0.6%, 0.6%, and 0.7%. (Rates for males are distinctly higher than those for females, as will be discussed below.)

Frequency of Lifetime, Annual, and 30-Day Use

While most of the discussion in this volume focuses on prevalence rates for different time periods (i.e., lifetime, annual, and 30-day), some readers may be interested in more detailed information about the frequency with which various drugs have been used in these same time periods. Tables 5a and 5b present frequency-of-use information in as much detail as the original question and answer sets contain.

Current Daily Prevalence

Frequent use of illicit or licit drugs is a great concern for the health and safety of adolescents. Tables 9 and 14, and Figure 3 show the prevalence of current daily or near-daily use of the various classes of drugs. For all drugs except cigarettes and smokeless tobacco, respondents are considered current daily users if they indicated that they had used the drug on twenty or more occasions in the preceding 30 days. In the case of cigarettes, respondents explicitly state the use of one or more cigarettes per day, and for smokeless tobacco they state using "about once a day" or more often.

- Across all three grade levels, ***cigarettes*** are used daily by more of the respondents than are any of the other drug classes: 9%, 16%, and 22% in grades 8, 10, and 12, respectively. A significant portion of these daily smokers say they smoke a half-pack or more per day (3%, 8%, and 12% of all respondents in each grade).

- Daily use of ***smokeless tobacco*** is considerably lower than daily cigarette use, at 1.2%, 2.7%, and 3.6%.

- Indeed, the proportions who are consuming tobacco daily in either (or both) forms are 11%, 19%, and 25% for grades 8, 10, and 12, respectively.

- Daily use of ***alcohol*** is next most frequent, at all three grade levels, at 0.7%, 1.7%, and 3.5% in grades 8, 10, and 12.

- ***Marijuana*** is used on a daily or near-daily basis by about one of every twenty seniors (4.6%); somewhat fewer tenth grade students use daily (2.8%), and only 0.8% of eighth grade students report daily use. (See Chapter 10 for a discussion of levels of past daily use and cumulative daily use of marijuana.)

TABLE 5a

Frequency of Use of Various Types of Drugs: Lifetime, Annual, and Thirty-Day Eighth, Tenth, and Twelfth Graders, 1995

(Entries are percentages)

	Marijuana			Inhalants[a,b]			Amyl/Butyl[c] Nitrites			Hallucinogens[d]			LSD			PCP[c]		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Approx. N =	17500	17000	15400	17500	17000	12800	—	—	2600	17500	17000	15400	17500	17000	15400	—	—	2600
Lifetime Frequency																		
No occasions	80.1	65.9	58.3	78.4	81.0	82.6	—	—	98.5	94.8	90.7	87.3	95.6	91.6	88.3	—	—	97.3
1-2 occasions	7.7	8.8	9.0	12.1	10.7	9.1	—	—	0.8	2.7	4.1	4.6	2.6	4.3	4.7	—	—	1.7
3-5 occasions	3.2	4.6	5.9	4.3	3.7	3.3	—	—	0.2	1.1	2.1	3.0	0.6	1.5	2.4	—	—	0.2
6-9 occasions	1.9	3.9	4.3	2.0	1.9	1.8	—	—	0.2	0.4	0.9	1.4	0.4	0.9	1.5	—	—	0.2
10-19 occasions	2.0	4.4	5.5	1.5	1.3	1.3	—	—	*	0.4	1.1	1.7	0.3	0.8	1.3	—	—	0.2
20-39 occasions	1.7	3.6	4.5	0.7	0.7	0.9	—	—	*	0.1	0.4	0.8	0.2	0.4	1.0	—	—	0.1
40 or more	3.4	8.9	12.5	1.1	0.7	1.0	—	—	0.2	0.4	0.6	1.2	0.3	0.4	0.8	—	—	0.3
Annual Frequency																		
No occasions	84.2	71.3	65.3	87.2	90.4	92.0	—	—	98.9	96.4	92.8	90.7	96.8	93.5	91.6	—	—	98.2
1-2 occasions	6.6	8.1	9.7	7.8	5.8	4.5	—	—	0.4	1.9	3.3	4.0	2.0	3.5	4.1	—	—	1.2
3-5 occasions	2.7	4.7	5.5	2.3	2.0	1.5	—	—	0.4	0.9	1.8	2.5	0.5	1.2	1.9	—	—	0.1
6-9 occasions	1.8	3.9	4.0	1.2	0.8	0.7	—	—	*	0.3	0.8	1.0	0.3	0.8	1.0	—	—	0.2
10-19 occasions	2.0	3.9	4.4	0.8	0.5	0.6	—	—	*	0.3	0.9	1.1	0.2	0.6	0.8	—	—	0.1
20-39 occasions	1.2	3.3	3.5	0.4	0.3	0.3	—	—	0.1	0.1	0.2	0.3	0.1	0.2	0.3	—	—	*
40 or more	1.4	4.8	7.6	0.3	0.2	0.3	—	—	0.2	0.2	0.2	0.4	0.1	0.1	0.3	—	—	0.3
30-Day Frequency																		
No occasions	90.9	82.8	78.8	93.9	96.5	96.8	—	—	99.6	98.3	96.7	95.6	98.6	97.0	96.0	—	—	99.4
1-2 occasions	4.2	6.4	7.3	4.1	2.4	1.9	—	—	0.1	0.9	2.0	2.7	0.8	2.1	2.7	—	—	0.2
3-5 occasions	1.9	3.3	3.7	1.0	0.6	0.6	—	—	0.1	0.4	0.8	1.0	0.3	0.6	0.8	—	—	0.1
6-9 occasions	1.2	2.4	2.6	0.5	0.2	0.3	—	—	0.0	0.2	0.3	0.3	0.1	0.2	0.3	—	—	0.0
10-19 occasions	0.9	2.2	3.0	0.3	0.2	0.3	—	—	0.1	0.1	0.2	0.2	*	0.1	0.1	—	—	0.1
20-39 occasions	0.4	1.6	2.2	0.1	*	0.1	—	—	0.0	*	*	*	*	*	*	—	—	0.1
40 or more	0.4	1.1	2.4	0.1	*	0.1	—	—	0.2	0.1	*	0.1	0.1	*	0.1	—	—	0.2

SOURCE: The Monitoring the Future Study, the University of Michigan.

(Table continued on next page)

TABLE 5a (cont.)

Frequency of Use of Various Types of Drugs: Lifetime, Annual, and Thirty-Day Eighth, Tenth, and Twelfth Graders, 1995

(Entries are percentages)

	Cocaine			Crack			Other Cocaine[d]			Heroin[e]			Other Opiates			Stimulants[f,g]		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Approx. N =	17500	17000	15400	17500	17000	15400	17500	17000	10300	17500	17000	15400	—	—	15400	17500	17000	15400
Lifetime Frequency																		
No occasions	95.8	95.0	94.0	97.3	97.2	97.0	96.6	95.6	94.9	97.7	98.3	98.4	—	—	92.8	86.9	82.6	84.7
1-2 occasions	1.9	2.0	2.9	1.6	1.6	1.5	2.1	2.4	2.7	1.3	0.9	0.8	—	—	3.4	6.5	8.0	6.8
3-5 occasions	1.2	1.4	1.0	0.5	0.4	0.5	0.4	0.7	0.7	0.4	0.3	0.3	—	—	1.6	2.8	3.4	3.1
6-9 occasions	0.3	0.4	0.5	0.2	0.3	0.3	0.3	0.4	0.6	0.1	0.1	0.1	—	—	0.6	1.2	2.0	1.6
10-19 occasions	0.4	0.5	0.7	0.2	0.2	0.2	0.2	0.4	0.4	0.1	0.1	0.1	—	—	0.7	0.9	1.7	1.5
20-39 occasions	0.1	0.3	0.3	0.1	0.1	0.2	0.1	0.3	0.2	0.1	*	0.1	—	—	0.3	0.8	0.9	1.0
40 or more	0.3	0.5	0.6	0.1	0.2	0.3	0.2	0.3	0.4	0.2	0.2	0.2	—	—	0.5	0.8	1.4	1.3
Annual Frequency																		
No occasions	97.4	96.5	96.0	98.4	98.2	97.9	97.9	97.0	96.6	98.6	98.9	98.9	—	—	95.3	91.3	88.1	90.7
1-2 occasions	1.2	1.4	1.8	1.0	1.1	1.0	1.3	1.8	1.8	0.8	0.6	0.5	—	—	2.6	5.0	6.0	4.6
3-5 occasions	0.8	1.0	0.8	0.3	0.3	0.4	0.2	0.5	0.6	0.2	0.1	0.2	—	—	0.9	1.6	2.4	1.8
6-9 occasions	0.2	0.3	0.4	0.1	0.2	0.2	0.2	0.3	0.4	0.1	0.1	0.1	—	—	0.4	0.8	1.5	1.1
10-19 occasions	0.3	0.4	0.4	0.1	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.1	—	—	0.4	0.7	0.9	0.9
20-39 occasions	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	*	0.1	0.1	—	—	0.2	0.3	0.6	0.6
40 or more	0.1	0.2	0.4	*	0.1	0.2	0.1	0.1	0.3	0.1	0.1	0.1	—	—	0.1	0.3	0.5	0.4
30-Day Frequency																		
No occasions	98.8	98.3	98.2	99.3	99.1	99.0	99.0	98.6	98.7	99.4	99.4	99.4	—	—	98.2	95.8	94.7	96.0
1-2 occasions	0.6	0.7	0.9	0.4	0.5	0.5	0.6	0.8	0.8	0.3	0.3	0.3	—	—	1.0	2.6	3.2	2.2
3-5 occasions	0.3	0.5	0.4	0.1	0.2	0.2	0.2	0.3	0.3	0.2	0.1	0.1	—	—	0.3	0.8	1.1	0.8
6-9 occasions	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.1	*	0.1	*	—	—	0.2	0.4	0.5	0.5
10-19 occasions	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	*	0.1	0.1	0.1	—	—	0.1	0.3	0.4	0.2
20-39 occasions	*	*	0.1	0.0	0.0	*	*	*	0.1	*	*	*	—	—	*	0.1	0.1	0.1
40 or more	*	*	0.1	*	*	0.1	*	*	0.1	*	*	*	—	—	0.1	0.1	0.1	0.1

SOURCE: The Monitoring the Future Study, the University of Michigan.

(Table continued on next page)

TABLE 5a (cont.)

Frequency of Use of Various Types of Drugs: Lifetime, Annual, and Thirty-Day Eighth, Tenth, and Twelfth Graders, 1995

(Entries are percentages)

	Crystal Meth. (Ice)[f]			Barbiturates[g]			Tranquilizers[g]			Alcohol			Been Drunk[h]			Steroids[h]		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th[b]	8th	10th	12th	8th	10th	12th
Approx. N =	—	—	5100	—	—	15400	17500	17000	15400	17500	17000	15400	17500	17000	5100	17500	17000	5100
Lifetime Frequency																		
No occasions	—	—	96.1	—	—	92.6	95.5	94.0	92.9	45.5	29.5	19.3	74.7	53.1	36.8	98.0	98.0	97.7
1-2 occasions	—	—	2.2	—	—	3.4	2.8	3.4	3.9	13.9	10.7	8.0	12.7	16.5	15.7	1.3	1.1	1.2
3-5 occasions	—	—	0.5	—	—	1.6	0.7	1.1	1.5	11.1	12.7	11.0	5.4	9.8	10.2	0.3	0.4	0.3
6-9 occasions	—	—	0.4	—	—	0.7	0.3	0.6	0.6	8.5	10.8	9.0	2.6	6.0	7.4	0.1	0.1	0.2
10-19 occasions	—	—	0.3	—	—	0.6	0.3	0.4	0.5	8.6	12.3	13.1	2.0	6.1	9.4	0.1	0.2	0.2
20-39 occasions	—	—	0.3	—	—	0.4	0.1	0.2	0.3	5.2	9.3	12.2	1.3	4.1	8.2	0.1	0.1	0.1
40 or more	—	—	0.2	—	—	0.6	0.3	0.3	0.3	7.3	14.7	27.4	1.3	4.5	12.3	0.1	0.2	0.3
Annual Frequency																		
No occasions	—	—	97.6	—	—	95.3	97.3	96.0	95.6	54.7	36.5	26.3	81.6	61.5	47.5	99.0	98.8	98.5
1-2 occasions	—	—	1.3	—	—	2.4	1.7	2.5	2.6	18.9	18.7	16.3	11.2	17.5	17.5	0.6	0.6	0.6
3-5 occasions	—	—	0.4	—	—	1.0	0.4	0.6	0.8	10.7	14.3	13.3	3.5	8.0	9.8	0.1	0.2	0.3
6-9 occasions	—	—	0.3	—	—	0.5	0.2	0.4	0.5	6.5	10.3	10.4	1.5	5.4	7.6	0.1	0.1	0.2
10-19 occasions	—	—	0.2	—	—	0.5	0.2	0.2	0.3	5.1	10.1	13.5	1.2	4.0	7.9	0.1	0.1	0.1
20-39 occasions	—	—	0.2	—	—	0.2	0.1	0.2	0.2	2.4	5.5	9.4	0.4	1.9	4.8	0.1	0.1	*
40 or more	—	—	0.1	—	—	0.2	*	0.1	0.1	1.6	4.7	10.7	0.5	1.7	4.9	0.1	0.1	0.2
30-Day Frequency																		
No occasions	—	—	98.9	—	—	97.8	98.8	98.3	98.2	75.4	61.2	48.7	91.7	79.2	66.8	99.4	99.4	99.3
1-2 occasions	—	—	0.7	—	—	1.2	0.7	1.0	1.2	14.1	19.1	20.6	5.6	13.0	17.5	0.3	0.3	0.2
3-5 occasions	—	—	0.2	—	—	0.6	0.3	0.3	0.3	5.5	9.9	13.1	1.5	4.4	7.7	0.1	0.1	0.2
6-9 occasions	—	—	0.1	—	—	0.2	0.1	0.2	0.2	2.7	5.4	8.4	0.6	1.9	4.1	*	0.1	*
10-19 occasions	—	—	0.1	—	—	0.1	0.1	0.1	0.1	1.6	2.7	5.6	0.4	0.9	2.6	0.1	*	0.1
20-39 occasions	—	—	0.1	—	—	0.1	*	0.1	*	0.3	0.8	1.7	0.1	0.3	0.7	*	*	*
40 or more	—	—	*	—	—	*	*	*	*	0.4	0.9	1.9	0.2	0.3	0.6	*	0.1	0.2

NOTES: '—' indicates data not available. '*' indicates less than .05 percent.
SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Unadjusted for known underreporting of certain drugs. See text for details.
[b] 12th grade only: Data based on five of six forms.
[c] 12th grade only: Data based on one of six forms.
[d] 12th grade only: Data based on four of six forms.
[e] In 1995, the heroin question was changed in half of the questionnaire forms. Separate questions were asked for use with injection and without injection. Data presented here represent the combined data from all forms.
[f] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.
[g] Only drug use which was not under a doctor's orders is included here.
[h] 12th grade only: Data based on two of six forms.

TABLE 5b

Frequency of Occasions of Heavy Drinking, and Cigarette and Smokeless Tobacco Use Eighth, Tenth, and Twelfth Graders, 1995

(Entries are percentages)

	Percent who used		
	8th Grade	10th Grade	12th Grade
Q. Think back over the LAST TWO WEEKS. How many times have you had five or more drinks in a row?			
None	85.5	76.0	70.2
Once	6.0	9.1	10.1
Twice	4.0	5.9	7.6
3 to 5 times	2.9	5.7	8.2
6 to 9 times	0.9	1.6	2.4
10 or more times	0.7	1.6	1.6
Approx. N =	17500	17000	15400
Q. Have you ever smoked cigarettes?			
Never	53.6	42.4	35.8
Once or twice	23.2	22.6	23.7
Occasionally but not regularly	11.6	15.0	16.6
Regularly in the past	5.5	7.2	7.0
Regularly now	6.1	12.8	17.0
Approx. N =	17500	17000	15400
Q. How frequently have you smoked cigarettes during the past 30 days?			
Not at all (includes "never" category from question above)	80.9	72.1	66.5
Less than one cigarette per day	9.8	11.6	11.9
One to five cigarettes per day	5.8	8.0	9.2
About one-half pack per day	1.8	4.5	6.1
About one pack per day	0.9	2.8	4.8
About one and one-half packs per day	0.3	0.8	1.1
Two packs or more per day	0.4	0.3	0.5
Approx. N =	17500	17000	15400
Q. Have you ever taken or used smokeless tobacco (snuff, plug, dipping tobacco, chewing tobacco)?			
Never	80.0	72.4	69.1
Once or twice	12.7	15.8	16.0
Occasionally but not regularly	4.3	6.3	7.1
Regularly in the past	1.7	2.5	3.7
Regularly now	1.3	3.0	4.1
Approx. N =	8800	8500	2600
Q. How frequently have you taken smokeless tobacco during the past 30 days?			
Not at all (includes "never" category from question above)	92.9	90.3	87.8
Once or twice	4.1	4.5	5.9
Once or twice per week	1.2	1.7	1.7
Three to five times per week	0.7	0.7	1.0
About once a day	0.4	0.6	0.7
More than once a day	0.9	2.1	2.9
Approx. N =	8800	8500	2600

SOURCE: The Monitoring the Future Study, the University of Michigan.

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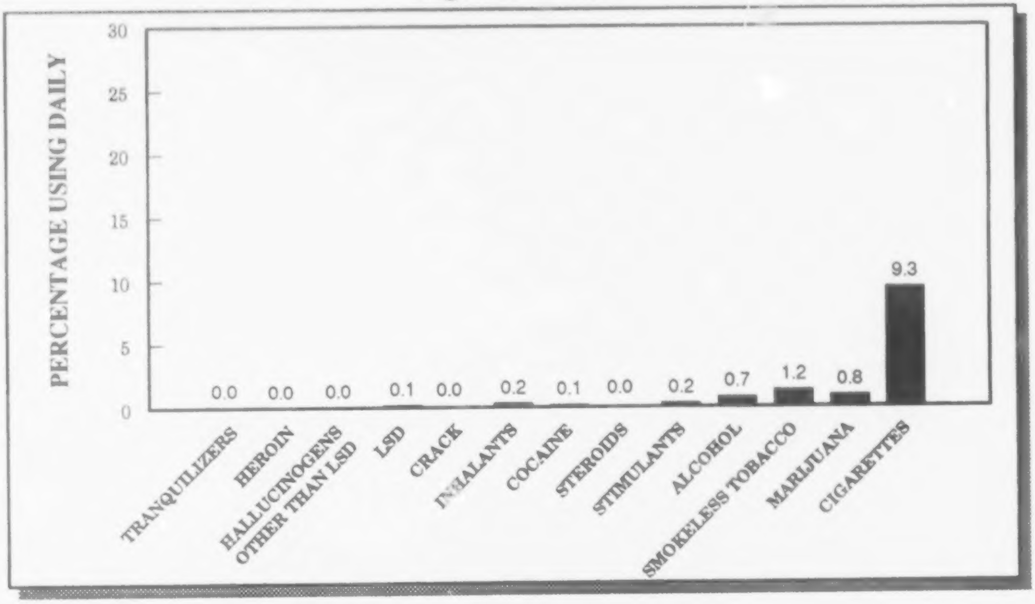
FIGURE 3

Thirty-Day Prevalence of Daily Use

Various Types of Drugs for Eighth, Tenth, and Twelfth Graders, 1995

Eighth Graders



Tenth Graders

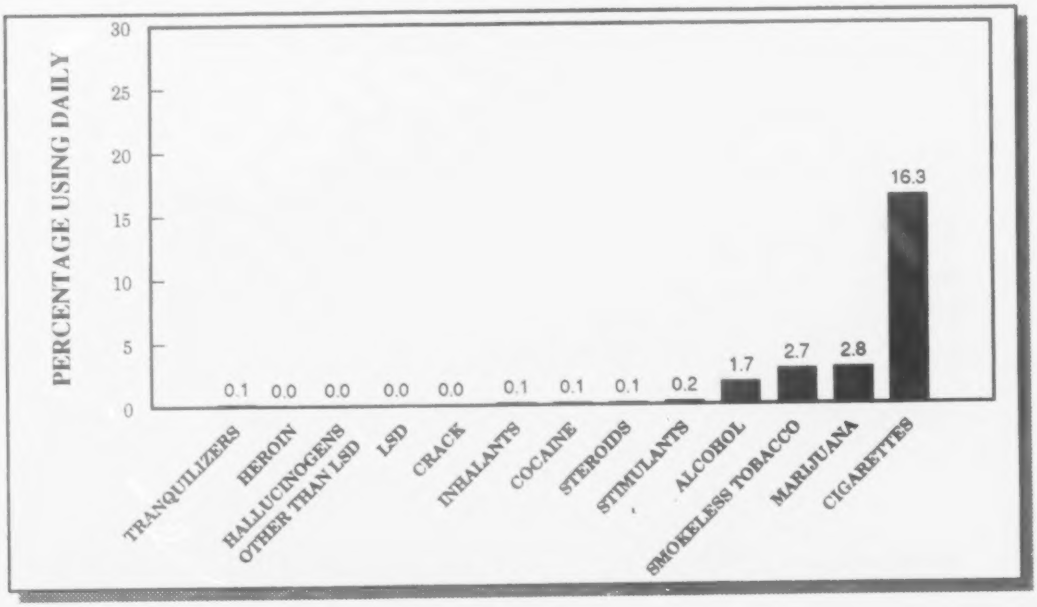
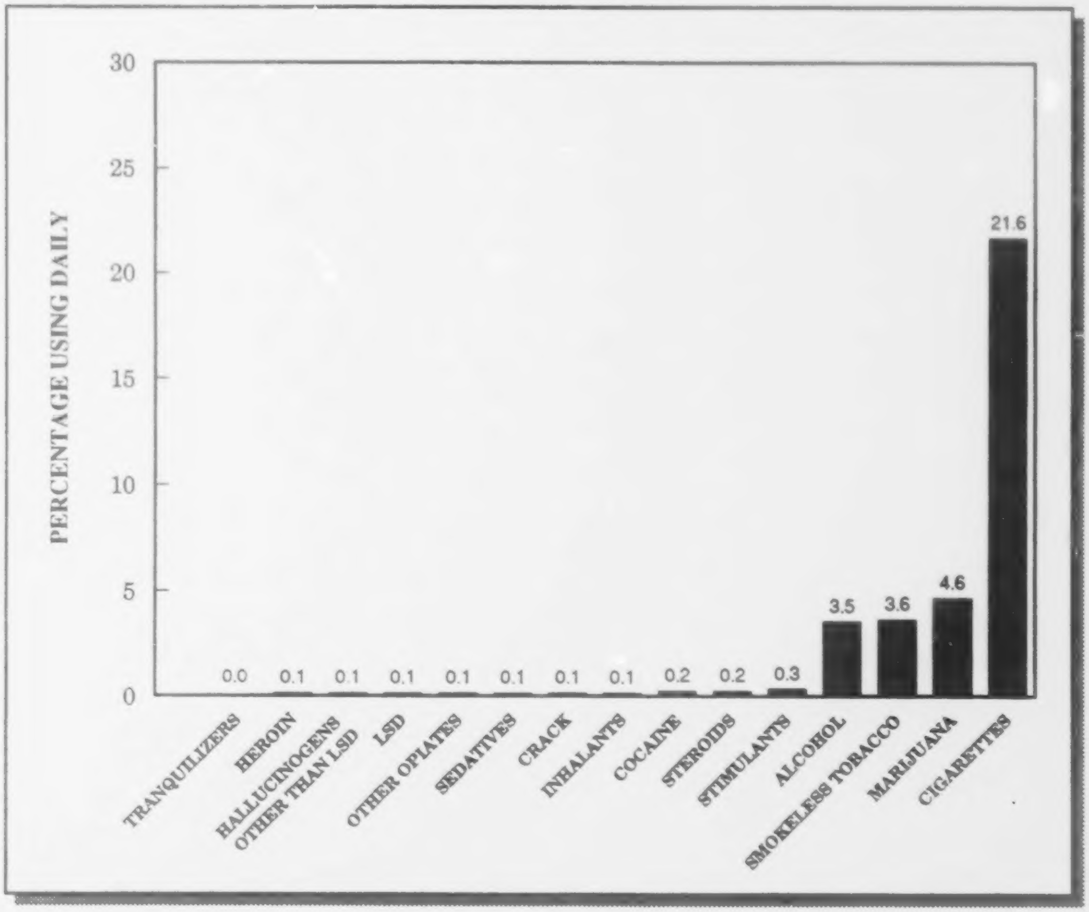


FIGURE 3 (cont.)

Thirty-Day Prevalence of Daily Use

Various Types of Drugs for Eighth, Tenth, and Twelfth Graders, 1995

Twelfth Graders



85

- Less than 1% of the 12th grade respondents report daily use of any one of the illicit drugs other than marijuana. They report 0.3% daily use of ***stimulants*** and ***PCP***, and 0.2% daily use of ***amyl*** and ***butyl nitrites***, ***cocaine*** and ***steroids***, followed by a number of drug classes at 0.1% or below. While very low, these figures are not inconsequential, because 1% of the high school class of 1995 represents more than 25,000 individuals.

- ***Inhalants*** are used on a daily basis by 0.2% of eighth graders. Besides marijuana, inhalants, and stimulants daily use figures for all other classes of illicit drugs are at or below 0.1% for eighth and tenth graders.

NONCONTINUATION RATES

An indication of the proportion of people who try a drug but do not continue to use it can be derived from calculating the percentage of those who ever used a drug (once or more) who did not use it the 12 months preceding the survey.[18] We use the word "noncontinuation" rather than "discontinuation," since the latter might imply discontinuing an established pattern of use, whereas our current operational definition includes experimental users as well as established users. In Figure 4 these noncontinuation rates are provided for all drug classes for twelfth graders in 1995. (Only data for seniors are presented here.) It may be seen in Figure 4 that noncontinuation rates vary widely among the different drugs.

- The highest noncontinuation rates observed are for ***inhalants*** (53%), ***methaqualone*** (42%), ***stimulants*** and ***crystal methamphetamine*** (ice) (both at 39%), ***barbiturates*** (37%), and ***other opiates*** and ***steroids*** (both at 35%). Many inhalants are used primarily at a younger age so use often is not continued into the senior year. Use of methaqualone may have declined in part because it is no longer readily available.

- By senior year, a high noncontinuation rate is found for ***PCP*** and ***cocaine***, including ***powdered cocaine*** (all at 33%). ***Heroin*** and ***crack cocaine*** have only slightly lower noncontinuation rates (31% and 30%, respectively).

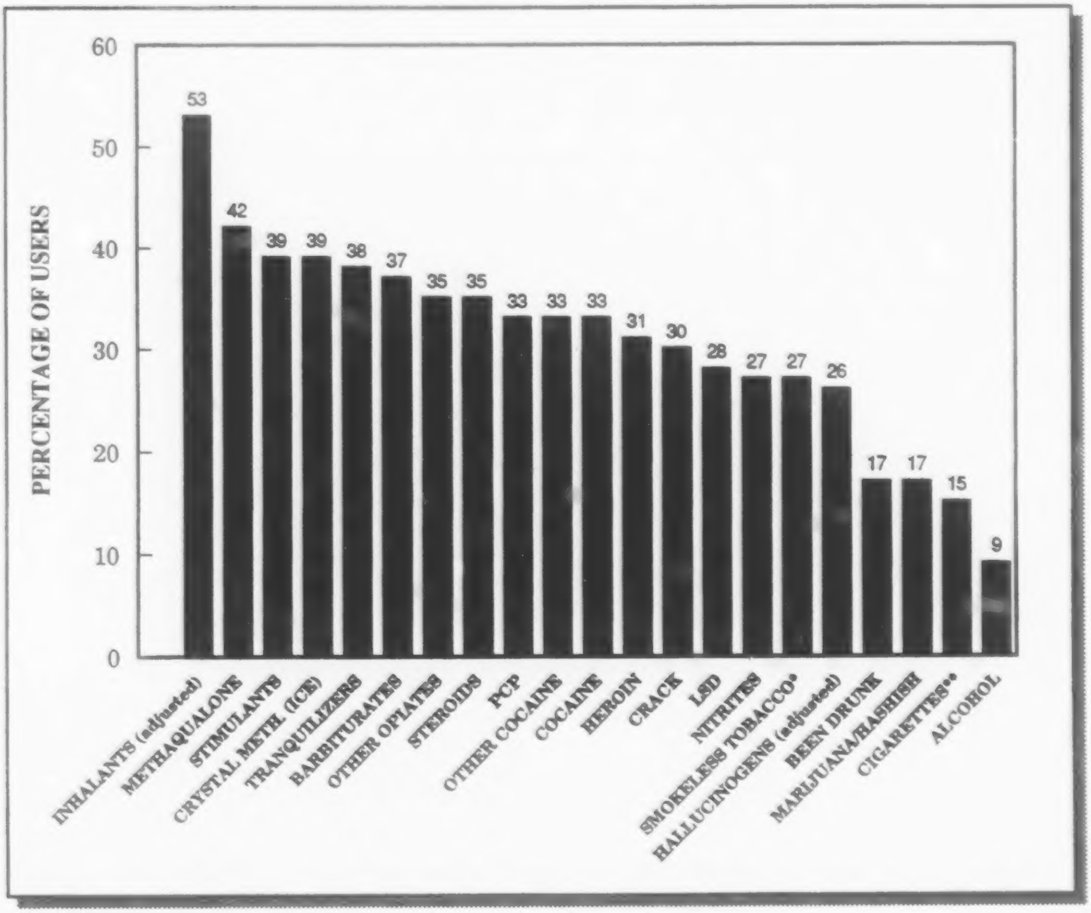
- Because a relatively high proportion of users continue to use ***marijuana*** at some level over an extended period, it consistently has had one of the lowest noncontinuation rates in senior year (17% in 1995) of any of the illicit drugs.

---

[18] This operationalization of noncontinuation has an inherent problem in that users of a given drug who initiate use during the past year by definition cannot be noncontinuers. Thus, the definition tends to understate the noncontinuation rate, particularly for drugs that tend to be initiated late in high school rather than in earlier years.

FIGURE 4

Noncontinuation Rates: Percent of Twelfth Graders Who Used Drug Once or More in Lifetime Who Did Not Use in Past Year, 1995



*Percent of regular smokeless tobacco users (ever) who did not use smokeless tobacco in the last thirty days.
**Percent of regular smokers (ever) who did not smoke at all in the last thirty days.

- Contrary to the widespread belief that ***crack*** is almost instantly addicting, it is noteworthy that, of the seniors who have ever used crack (3.0%), only one-third (1.0%) are current users and only 0.1% of the total sample are current daily users. While there is no question that crack is highly addictive, the evidence here suggests that it is not usually addictive on the first use.

- The remaining ***illicit drugs*** have noncontinuation rates ranging from 26% to 28%.

- In contrast to illicit drugs, noncontinuation rates for the two licit drugs are extremely low. ***Alcohol***, tried by nearly all seniors (80%), is still used in the senior year by nearly all of those who have ever tried it (74% of all seniors) yielding a noncontinuation rate for alcohol of only 9%.

- Noncontinuation is defined differently for ***cigarettes***, because cigarette use in the past year is not asked of respondents. The noncontinuation rate is the percentage of those who say they ever smoked "regularly" who report not smoking at all during the past 30 days. Only 15% of seniors who say they were regular smokers have ceased active use.

- Noncontinuation is defined for ***smokeless tobacco*** much the same way as for cigarettes; it also has a relatively low rate of noncontinuation by senior year, with only 27% of the lifetime "regular" users not using in the past year.

PREVALENCE COMPARISONS FOR IMPORTANT SUBGROUPS

Sex Differences

In general, higher proportions of males than females are involved in illicit drug use, especially heavy drug use; however, this picture is a somewhat complicated one (see Tables 6 through 9).

- Overall the proportion of twelfth graders using ***marijuana*** is higher among males (annual prevalence of 38% vs. 31% among females), and daily use of marijuana is even more concentrated among males (6.5% vs. 2.4% for females). This is also true among eighth and tenth grade students. (See Tables 7 and 9.)

- Males have considerably higher prevalence rates on most other illicit drugs, too. The annual prevalence rates in senior year tend to be at least one and one-half to two and one-half times as high among males as among females for ***heroin, other opiates, cocaine, crack cocaine, other cocaine, inhalants***, and the specific drugs ***LSD*** and ***PCP***. Further, males account for an even greater share of the frequent or heavy users of these various classes of drugs. For many of these drugs

TABLE 6

Lifetime Prevalence of Use of Various Types of Drugs by Subgroups, Twelfth Graders, 1995

(Entries are percentages)

	Marijuana	Inhalants[a]	Amyl/Butyl Nitrites	Hallucinogens[a]	LSD	PCP	Cocaine	Crack	Other Cocaine	Heroin[b]	Other Opiates[c]	Stimulants[c]	Crystal Meth. (Ice)	Sedatives[c]	Barbiturates[c]	Methaqualone[c]	Tranquilizers[c]	Alcohol	Been Drunk	Cigarettes	Smokeless	Steroids
Total	41.7	17.4	1.5	12.7	11.7	2.7	6.0	3.0	5.1	1.6	7.2	15.3	3.9	7.6	7.4	1.2	7.1	80.7	63.2	64.2	30.9	2.3
Sex:																						
Male	45.2	20.5	1.9	15.6	14.2	3.2	7.0	3.5	6.0	1.9	8.1	14.5	4.3	8.0	7.8	1.3	6.8	80.9	65.8	64.5	50.3	3.8
Female	37.7	14.6	0.9	9.5	9.0	2.1	4.9	2.4	3.9	1.3	6.2	15.6	3.5	7.0	6.8	0.7	7.3	80.1	60.6	63.5	12.8	0.8
College Plans:																						
None or under 4 yrs	48.8	21.8	1.6	16.2	15.4	4.4	8.7	4.6	7.6	2.3	9.0	20.3	6.8	10.8	10.2	2.0	9.5	85.0	68.7	72.5	43.0	3.5
Complete 4 yrs	38.8	16.1	1.4	11.3	10.3	2.1	5.0	2.4	4.1	1.4	6.6	13.8	3.1	6.6	6.5	0.6	6.5	79.1	60.8	61.2	27.0	1.8
Region:																						
Northeast	44.5	20.0	1.3	13.6	12.1	3.5	5.3	2.0	5.5	1.6	6.9	15.0	2.9	6.7	6.7	1.9	6.6	84.9	67.1	65.1	27.1	2.6
North Central	43.3	18.6	1.1	12.0	11.2	1.8	5.3	2.8	4.3	1.2	7.6	15.9	3.4	7.1	7.1	1.1	6.3	82.9	69.2	68.3	39.2	2.2
South	39.2	15.7	1.4	12.0	11.4	3.0	5.4	2.6	4.5	1.9	7.0	14.9	3.2	8.6	8.1	1.2	8.2	80.7	61.0	64.6	28.3	2.5
West	41.5	16.4	2.4	14.1	12.8	3.1	8.8	5.0	6.7	1.6	6.9	15.2	7.0	7.0	7.0	0.7	6.6	73.3	54.8	56.9	26.8	1.6
Population Density:																						
Large MSA	44.1	17.8	1.0	14.8	13.5	4.5	6.2	3.0	5.6	1.9	7.1	14.7	5.0	6.5	6.5	1.3	6.9	80.8	61.6	63.7	27.9	2.2
Other MSA	42.1	17.2	1.5	13.1	12.1	2.6	6.0	2.9	5.0	1.5	7.3	14.4	3.6	8.1	7.7	1.4	7.0	80.4	62.2	62.6	28.4	2.0
Non-MSA	38.3	17.4	2.0	9.8	9.2	1.1	5.8	3.3	4.6	1.5	7.0	17.4	3.3	7.8	7.8	0.9	7.4	80.8	66.6	67.7	38.4	2.7
Parental Education:[d]																						
1.0-2.0 (Low)	39.8	16.4	0.7	10.9	10.4	1.1	7.9	5.0	6.1	2.5	6.8	17.4	6.4	8.9	8.6	1.4	7.2	80.3	62.0	66.2	28.0	1.8
2.5-3.0	41.8	18.5	1.3	12.1	11.4	2.6	5.7	3.2	5.1	1.7	6.9	16.8	5.1	8.4	8.4	0.8	7.7	82.2	62.8	66.1	31.8	2.5
3.5-4.0	41.7	16.3	1.5	12.9	12.0	2.9	6.2	2.7	5.0	1.4	6.8	15.7	2.9	7.5	7.3	1.5	7.0	81.6	65.7	64.9	31.1	1.6
4.5-5.0	40.7	18.0	1.7	12.8	11.7	2.8	5.6	2.6	4.8	1.6	7.9	13.6	3.2	6.9	6.7	0.9	6.7	79.3	62.5	61.7	31.6	2.4
5.5-6.0 (High)	43.2	18.3	1.4	13.6	12.1	2.8	4.9	2.2	3.9	1.4	7.7	12.6	3.6	6.6	6.2	0.6	6.6	80.0	61.6	63.6	28.9	2.2

NOTES: '—' indicates data not available.
Prevalence of use of each drug was included in all six questionnaire forms with the following exceptions: inhalants was in five forms; other cocaine was in four forms; crystal methamphetamine (ice), steroids, and "been drunk" were in two forms; and nitrites, PCP, methaqualone and smokeless tobacco were in one form. The N's in Table 7 should be adjusted accordingly (i.e., the approximate N for inhalants is five-sixths of the 12th grade N given in Table 7).
See Table 7 for sample sizes.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Unadjusted for known underreporting of certain drugs. See text for details.

[b] In 1995, the heroin question was changed in half of the questionnaire forms. Separate questions were asked for use with injection and without injection. Data presented here represent the combined data from all forms.

[c] Only drug use which was not under doctor's orders is included here.

[d] Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data was allowed on one of the two variables.

TABLE 7

Annual Prevalence of Use of Various Types of Drugs by Subgroups
Eighth, Tenth, and Twelfth Graders, 1995

(Entries are percentages)

	Approx. N			Marijuana			Inhalants[a,b]			Hallucinogens[b]			LSD			Cocaine		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	*17500*	*17000*	*15400*	15.8	28.7	34.7	12.8	9.6	8.0	3.6	7.2	9.3	3.2	6.5	8.4	2.6	3.5	4.0
Sex:																		
Male	*8100*	*8300*	*7200*	17.7	30.6	38.1	11.5	10.3	9.9	4.0	8.1	11.9	3.4	7.4	10.7	2.5	3.5	4.8
Female	*8700*	*8400*	*7800*	13.7	26.5	30.6	14.0	8.9	6.2	3.3	6.1	6.3	2.9	5.5	5.8	2.6	3.3	3.1
College Plans:																		
None or under 4 yrs	*1900*	*2500*	*3300*	30.3	41.8	39.0	19.6	14.6	9.7	9.6	12.5	11.9	8.5	11.1	11.2	7.0	7.2	5.6
Complete 4 yrs	*14800*	*14200*	*11200*	13.8	26.4	32.6	11.9	8.7	7.4	2.9	6.2	8.2	2.5	5.6	7.3	2.0	2.8	3.4
Region:																		
Northeast	*3100*	*3300*	*2800*	13.0	28.8	37.7	13.1	10.4	10.3	3.4	5.6	10.1	2.9	4.7	8.8	2.2	2.5	3.8
North Central	*4300*	*4400*	*4300*	17.5	26.6	36.9	13.8	10.4	8.6	3.8	7.8	9.2	3.5	7.3	8.3	2.6	2.9	3.4
South	*6600*	*6100*	*5400*	14.7	28.4	31.8	12.1	9.4	7.0	3.3	7.3	8.8	2.8	6.8	8.1	2.4	3.5	3.6
West	*3500*	*3200*	*2900*	18.4	32.2	33.8	12.4	8.1	6.7	4.2	7.6	9.6	3.8	6.5	8.5	3.3	5.3	5.8
Population Density:																		
Large MSA	*5200*	*4700*	*4400*	15.6	27.8	37.5	11.7	8.7	8.5	4.0	7.1	11.0	3.6	6.6	9.7	2.4	3.4	4.4
Other MSA	*7800*	*8200*	*7000*	17.2	31.2	34.9	13.7	9.7	7.8	3.8	8.0	9.5	3.3	7.1	8.7	2.8	3.5	3.9
Non-MSA	*4500*	*4100*	*4000*	13.7	24.8	31.0	12.3	10.5	7.8	3.0	5.5	7.0	2.4	5.0	6.5	2.4	3.6	3.9
Parental Education:[c]																		
1.0-2.0 (Low)	*1500*	*1200*	*1200*	23.0	32.0	30.9	13.0	9.4	7.5	5.1	7.7	7.2	4.6	6.9	6.6	4.9	5.3	4.8
2.5-3.0	*3900*	*4100*	*3700*	17.9	31.8	33.8	13.9	11.0	8.0	3.8	7.6	8.7	3.1	6.9	8.1	2.4	4.3	3.9
3.5-4.0	*4000*	*4600*	*4400*	17.2	30.0	34.2	14.7	10.2	6.7	4.1	7.6	9.5	3.6	6.9	8.6	2.8	3.7	4.2
4.5-5.0	*3900*	*4000*	*3700*	12.7	27.0	35.0	12.3	9.4	8.9	3.2	6.6	9.6	2.6	6.0	8.6	1.9	2.6	3.7
5.5-6.0 (High)	*2300*	*2300*	*1800*	13.0	23.4	37.5	11.6	7.0	9.7	3.2	6.5	9.5	2.9	5.9	8.3	2.5	1.9	3.4

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] 12th grade only: Data based on five of six forms; N is five-sixths of N indicated.

[b] Unadjusted for known underreporting of certain drugs. See text for details.

[c] Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data was allowed on one of the two variables.

(Table continued on next page)

TABLE 7 (cont.)

Annual Prevalence of Use of Various Types of Drugs by Subgroups Eighth, Tenth, and Twelfth Graders, 1995

(Entries are percentages)

	Crack			Other Cocaine[a]			Heroin[b]			Other Opiates[c]			Stimulants[c]			Barbiturates[c]		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	1.6	1.8	2.1	2.1	3.0	3.4	1.4	1.1	1.1	—	—	4.7	8.7	11.9	9.3	—	—	4.7
Sex:																		
Male	1.5	1.9	2.5	2.0	3.1	4.0	1.6	1.3	1.4	—	—	5.6	7.0	9.6	9.5	—	—	5.1
Female	1.6	1.6	1.5	2.2	2.9	2.5	1.2	0.8	0.8	—	—	3.8	10.3	14.1	8.9	—	—	4.2
College Plans:																		
None or under 4 yrs	4.2	3.7	3.0	5.9	6.3	4.5	4.4	2.2	1.5	—	—	5.6	17.1	19.9	12.3	—	—	5.9
Complete 4 yrs	1.3	1.5	1.7	1.6	2.5	2.9	1.0	0.9	0.9	—	—	4.4	7.6	10.6	8.3	—	—	4.4
Region:																		
Northeast	1.4	1.1	1.6	1.8	2.2	4.2	1.4	0.9	1.0	—	—	4.3	7.3	9.8	9.6	—	—	4.1
North Central	1.4	1.5	2.0	2.0	2.5	2.7	1.4	1.0	0.7	—	—	5.2	10.6	13.3	9.5	—	—	4.5
South	1.4	1.9	1.7	2.0	2.9	3.1	1.5	1.3	1.4	—	—	4.5	8.6	12.8	9.2	—	—	5.3
West	2.3	2.8	3.5	2.7	4.8	4.0	1.2	1.0	1.0	—	—	4.7	7.9	10.6	8.9	—	—	4.3
Population Density:																		
Large MSA	1.5	1.9	2.0	2.0	2.8	3.7	1.2	1.0	1.4	—	—	4.8	7.2	9.2	9.1	—	—	4.1
Other MSA	1.7	1.6	2.1	2.1	3.1	3.3	1.5	1.0	0.9	—	—	4.7	8.9	12.8	8.5	—	—	4.9
Non-MSA	1.4	2.3	2.1	2.2	3.1	3.1	1.5	1.3	1.0	—	—	4.7	10.1	13.3	10.8	—	—	5.0
Parental Education:[d]																		
1.0-2.0 (Low)	3.0	3.0	3.4	4.3	5.0	2.9	2.6	1.8	1.8	—	—	4.0	11.8	14.3	9.9	—	—	4.9
2.5-3.0	1.2	2.4	2.3	2.0	3.6	3.4	1.0	1.0	1.1	—	—	4.2	10.6	14.2	9.9	—	—	5.2
3.5-4.0	1.7	1.7	1.7	2.2	3.3	3.6	1.6	1.2	0.9	—	—	4.4	10.1	12.4	9.1	—	—	4.6
4.5-5.0	1.3	1.3	1.9	1.6	2.2	3.2	1.2	0.9	1.1	—	—	5.5	6.8	10.7	9.2	—	—	4.4
5.5-6.0 (High)	1.6	1.1	1.5	2.0	1.7	2.7	1.6	0.9	1.0	—	—	5.5	6.4	8.8	8.1	—	—	4.1

NOTE: '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] 12th grade only: Data based on four of six forms; N is four-sixths of N indicated.

[b] In 1995, the heroin question was changed in half of the questionnaire forms. Separate questions were asked for use with injection and without injection. Data presented here represent the combined data from all forms.

[c] Only drug use which was not under doctor's orders is included here.

[d] Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data was allowed on one of the two variables.

TABLE 7 (cont.)

Annual Prevalence of Use of Various Types of Drugs by Subgroups Eighth, Tenth, and Twelfth Graders, 1995

(Entries are percentages)

	Tranquilizers[a]			Alcohol			Been Drunk[b]			Cigarettes			Smokeless Tobacco			Steroids[b]		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	2.7	4.0	4.4	45.3	63.5	73.7	18.4	38.5	52.5	—	—	—	—	—	—	1.0	1.2	1.5
Sex:																		
Male	2.0	4.0	4.7	46.3	63.4	74.5	17.9	38.6	56.0	—	—	—	—	—	—	1.3	2.0	2.4
Female	3.3	4.0	4.1	44.3	63.6	72.7	18.8	38.5	49.2	—	—	—	—	—	—	0.8	0.5	0.6
College Plans:																		
None or under 4 yrs	5.9	7.4	5.6	59.6	75.0	78.6	32.5	50.7	56.5	—	—	—	—	—	—	2.2	2.1	2.0
Complete 4 yrs	2.3	3.4	4.1	43.4	61.6	72.0	16.8	36.6	50.7	—	—	—	—	—	—	0.9	1.1	1.2
Region:																		
Northeast	2.3	2.6	3.9	47.3	65.1	79.0	17.3	38.5	56.9	—	—	—	—	—	—	1.0	1.1	1.6
North Central	2.6	3.2	4.0	46.2	64.3	77.5	19.8	39.7	59.2	—	—	—	—	—	—	1.1	1.2	1.5
South	3.0	5.1	5.0	45.7	63.3	72.6	18.3	38.4	50.3	—	—	—	—	—	—	1.1	1.3	1.7
West	2.4	4.3	4.3	41.4	61.1	64.8	17.8	37.3	42.5	—	—	—	—	—	—	1.0	1.3	1.0
Population Density:																		
Large MSA	1.8	3.2	4.0	43.5	61.0	73.7	16.4	34.6	51.4	—	—	—	—	—	—	0.9	0.8	1.4
Other MSA	3.2	4.1	4.5	46.5	64.6	73.2	19.3	40.5	50.7	—	—	—	—	—	—	1.2	1.4	1.3
Non-MSA	2.6	4.7	4.8	45.1	64.2	74.4	19.1	39.2	56.7	—	—	—	—	—	—	0.9	1.4	2.1
Parental Education:[c]																		
1.0-2.0 (Low)	2.9	5.0	3.9	52.0	65.4	70.8	27.5	39.5	45.2	—	—	—	—	—	—	1.3	1.2	1.1
2.5-3.0	2.7	4.5	4.7	50.5	67.4	74.7	21.7	42.3	50.8	—	—	—	—	—	—	1.3	1.1	1.3
3.5-4.0	3.2	4.3	4.3	48.1	65.7	74.4	20.6	40.2	55.2	—	—	—	—	—	—	0.8	1.6	1.1
4.5-5.0	2.2	3.5	4.5	40.8	61.9	73.2	14.1	37.3	52.9	—	—	—	—	—	—	0.8	1.1	2.0
5.5-6.0 (High)	1.6	3.2	4.1	40.9	57.9	74.2	14.5	33.7	53.3	—	—	—	—	—	—	1.5	1.0	1.4

NOTE: '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Only drug use not under a doctor's orders is included here.

[b] 12th grade only: Data based on two of six forms; N is two-sixths of N indicated.

[c] Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data was allowed on one of the two variables.

TABLE 8

Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups Eighth, Tenth, and Twelfth Graders, 1995

(Entries are percentages)

	Approx. N			Marijuana			Inhalants[a,b]			Hallucinogens[b]			LSD			Cocaine		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	17500	17000	15400	9.1	17.2	21.2	6.1	3.5	3.2	1.7	3.3	4.4	1.4	3.0	4.0	1.2	1.7	1.8
Sex:																		
Male	8100	8300	7200	9.8	19.1	24.6	5.6	3.8	3.9	1.8	3.9	5.8	1.4	3.5	5.3	1.1	1.8	2.2
Female	8700	8400	7800	8.2	15.0	17.2	6.6	3.2	2.5	1.5	2.7	2.7	1.3	2.5	2.5	1.2	1.5	1.3
College Plans:																		
None or under 4 yrs	1900	2500	3300	20.6	27.9	23.7	11.1	6.1	3.9	4.6	6.3	5.5	3.7	5.8	5.3	3.9	3.8	3.1
Complete 4 yrs	14800	14200	11200	7.5	15.2	19.6	5.5	3.0	3.0	1.3	2.8	3.9	1.1	2.5	3.5	0.8	1.3	1.3
Region:																		
Northeast	3100	3300	2800	7.2	17.1	23.8	6.1	4.3	4.8	1.8	2.7	4.3	1.4	2.2	3.8	1.3	1.2	1.8
North Central	4300	4400	4300	10.1	16.8	22.6	7.0	4.2	3.4	1.7	3.6	4.4	1.4	3.4	4.0	0.9	1.5	1.5
South	6600	6100	5400	8.5	17.2	19.4	6.1	3.3	2.8	1.6	3.8	4.6	1.3	3.5	4.3	1.1	1.6	1.5
West	3500	3200	2900	10.6	17.6	19.8	5.2	2.1	2.1	1.6	2.9	4.1	1.4	2.4	3.7	1.5	2.4	2.8
Population Density:																		
Large MSA	5200	4700	4400	9.1	16.9	23.6	5.1	3.2	3.9	1.8	3.6	4.9	1.5	3.2	4.2	1.0	1.4	2.3
Other MSA	7800	8200	7000	9.9	18.5	21.5	6.9	3.6	2.9	1.8	3.7	4.6	1.5	3.4	4.3	1.3	1.7	1.5
Non-MSA	4500	4100	4000	7.7	14.7	17.8	5.9	3.6	3.0	1.3	2.4	3.5	1.0	2.1	3.3	1.2	1.8	1.8
Parental Education:[c]																		
1.0-2.0 (Low)	1500	1200	1200	13.5	20.6	18.1	7.6	4.1	3.5	2.3	4.6	3.9	2.0	4.1	3.5	2.3	3.8	2.7
2.5-3.0	3900	4100	3700	10.4	19.3	19.6	7.6	4.1	3.4	1.7	3.9	4.4	1.3	3.6	4.1	1.1	2.1	1.8
3.5-4.0	4000	4600	4400	9.9	18.0	21.5	7.2	3.8	2.6	1.8	3.3	4.2	1.4	3.0	3.9	1.3	1.7	1.3
4.5-5.0	3900	4000	3700	7.1	15.6	21.3	5.3	3.1	3.1	1.7	2.9	4.4	1.4	2.6	4.0	0.8	1.0	1.7
5.5-6.0 (High)	2300	2300	1800	7.4	13.3	23.1	4.1	1.9	4.3	1.3	2.6	4.4	1.2	2.3	3.8	1.3	0.8	1.5

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] 12th grade only: Data based on five of six forms; N is five-sixths of N indicated.

[b] Unadjusted for known underreporting of certain drugs. See text for details.

[c] Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data was allowed on one of the two variables.

(Table continued on next page)

TABLE 8 (cont.)

Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups Eighth, Tenth, and Twelfth Graders, 1995

(Entries are percentages)

	Crack			Other Cocaine[a]			Heroin[b]			Other Opiates[c]			Stimulants[c]			Barbiturates[c]		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	0.7	0.9	1.0	1.0	1.4	1.3	0.6	0.6	0.6	—	—	1.8	4.2	5.3	4.0	—	—	2.2
Sex:																		
Male	0.6	0.9	1.3	0.9	1.5	1.5	0.7	0.7	0.6	—	—	2.2	3.3	4.3	4.0	—	—	2.4
Female	0.7	0.7	0.7	1.0	1.3	1.0	0.5	0.4	0.5	—	—	1.4	5.0	6.2	3.8	—	—	1.8
College Plans:																		
None or under 4 yrs	2.5	1.7	1.7	3.1	3.2	2.0	1.9	1.2	0.6	—	—	2.2	9.4	9.6	5.4	—	—	2.6
Complete 4 yrs	0.4	0.7	0.7	0.7	1.1	1.0	0.5	0.5	0.5	—	—	1.7	3.5	4.6	3.5	—	—	2.0
Region:																		
Northeast	0.6	0.7	0.9	1.1	1.0	1.6	0.9	0.4	0.7	—	—	1.8	3.5	4.1	4.0	—	—	1.9
North Central	0.5	0.8	1.0	0.7	1.3	1.1	0.6	0.5	0.3	—	—	2.0	4.8	5.9	3.7	—	—	2.1
South	0.7	0.9	0.7	0.9	1.3	1.1	0.6	0.7	0.8	—	—	1.7	4.7	5.9	4.1	—	—	2.6
West	1.0	1.2	1.8	1.3	2.1	1.6	0.6	0.5	0.3	—	—	1.5	3.3	4.6	4.1	—	—	1.8
Population Density:																		
Large MSA	0.6	0.8	1.2	1.0	1.2	1.7	0.7	0.5	0.7	—	—	1.7	3.3	4.7	4.1	—	—	1.8
Other MSA	0.7	0.8	0.9	1.0	1.4	1.1	0.7	0.5	0.5	—	—	1.7	4.3	5.3	3.8	—	—	2.4
Non-MSA	0.7	1.0	1.0	1.1	1.5	1.3	0.6	0.7	0.5	—	—	2.0	5.2	6.1	4.2	—	—	2.2
Parental Education:[d]																		
1.0-2.0 (Low)	1.4	1.6	2.4	2.1	2.9	1.7	1.4	1.4	1.1	—	—	1.9	7.0	7.3	4.6	—	—	2.2
2.5-3.0	0.5	1.1	1.2	0.8	1.8	1.3	0.3	0.7	0.6	—	—	1.8	5.4	6.6	4.5	—	—	2.1
3.5-4.0	0.8	0.9	0.7	1.0	1.4	0.9	0.8	0.6	0.4	—	—	1.5	4.5	5.1	3.8	—	—	2.0
4.5-5.0	0.5	0.5	0.9	0.8	0.8	1.2	0.4	0.2	0.5	—	—	1.9	3.0	4.6	3.6	—	—	2.0
5.5-6.0 (High)	0.7	0.5	0.4	1.1	0.6	1.1	0.9	0.5	0.5	—	—	1.9	2.8	3.7	3.2	—	—	2.2

NOTE: '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] 12th grade only: Data based on four of six forms; N is four-sixths of N indicated.

[b] In 1995, the heroin question was changed in half of the questionnaire forms. Separate questions were asked for use with injection and without injection. Data presented here represent the combined data from all forms.

[c] Only drug use which was not under doctor's orders is included here.

[d] Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data was allowed on one of the two variables.

(Table continued on next page)

TABLE 8 (cont.)

Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups
Eighth, Tenth, and Twelfth Graders, 1995

(Entries are percentages)

	Tranquilizers[a]			Alcohol			Been Drunk[b]			Cigarettes			Smokeless Tobacco[c]			Steroids[b]		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	1.2	1.7	1.8	24.6	38.8	51.3	8.3	20.8	33.2	19.1	27.9	33.5	7.1	9.7	12.2	0.6	0.6	0.7
Sex:																		
Male	0.9	1.7	2.0	25.0	39.7	55.7	8.2	21.9	37.8	18.8	27.7	34.5	11.8	17.2	23.6	0.7	1.0	0.8
Female	1.5	1.7	1.6	24.0	37.8	47.0	8.2	19.6	28.8	19.0	27.9	32.0	2.9	2.1	1.8	0.3	0.2	0.5
College Plans:																		
None or under 4 yrs	3.4	3.6	2.1	40.0	52.2	55.9	17.2	31.4	37.6	36.5	46.3	43.5	15.4	20.3	18.7	1.2	0.9	0.9
Complete 4 yrs	1.0	1.3	1.7	22.6	36.4	49.6	7.3	19.0	31.4	16.8	24.7	29.9	6.0	7.8	9.9	0.5	0.6	0.5
Region:																		
Northeast	1.1	1.0	1.6	24.1	38.3	55.0	8.2	19.5	35.5	18.6	27.8	34.4	5.4	7.6	9.6	0.6	0.4	1.0
North Central	1.1	1.5	1.4	24.7	38.9	55.3	8.3	22.6	38.2	20.9	30.1	37.8	7.6	11.0	16.7	0.5	0.6	0.5
South	1.4	2.0	2.3	25.5	39.4	50.6	8.4	20.9	31.2	19.4	30.8	33.5	8.7	10.9	11.9	0.6	0.7	0.6
West	1.1	1.8	1.6	23.1	38.0	43.2	8.2	19.5	27.1	16.5	19.6	26.5	5.0	7.7	8.6	0.5	0.6	0.8
Population Density:																		
Large MSA	0.9	1.2	1.6	22.3	34.6	50.6	7.2	18.2	32.0	16.5	23.3	33.9	4.1	5.9	12.5	0.6	0.4	0.9
Other MSA	1.4	1.7	1.9	25.3	39.9	50.6	8.9	21.8	31.7	19.4	28.9	31.7	6.7	9.2	9.5	0.7	0.6	0.6
Non-MSA	1.4	2.2	1.9	26.0	41.3	53.4	8.6	21.8	36.9	21.5	31.3	36.2	11.2	15.0	16.7	0.4	0.8	0.6
Parental Education:[d]																		
1.0-2.0 (Low)	2.2	2.2	1.5	30.8	43.5	45.9	13.1	23.4	25.4	25.3	30.9	31.2	10.6	9.6	9.8	0.7	0.9	0.9
2.5-3.0	1.3	2.0	1.9	27.8	42.3	52.0	9.6	22.9	30.0	22.7	33.2	35.0	9.9	10.4	11.5	0.6	0.6	0.9
3.5-4.0	1.4	1.7	1.8	26.8	38.8	50.6	9.4	21.4	34.4	20.8	27.8	33.2	7.0	10.9	12.8	0.4	0.7	0.3
4.5-5.0	0.7	1.4	2.1	21.0	37.9	51.8	6.4	19.7	36.5	14.9	25.9	32.6	5.0	9.8	12.8	0.4	0.5	0.6
5.5-6.0 (High)	1.1	1.3	1.3	20.5	34.3	55.1	6.0	17.9	34.9	14.5	21.8	34.0	5.8	6.0	11.6	0.9	0.5	0.7

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Only drug use not under a doctor's orders is included here.

[b] 12th grade only: Data based on two of six forms; N is two-sixths of N indicated.

[c] Data based on one form; N is one-half of N indicated for 8th and 10th graders and one-sixth of N indicated for 12th graders.

[d] Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data was allowed on one of the two variables.

TABLE 9

Thirty-Day Prevalence of Daily Use of Marijuana, Alcohol, and Tobacco by Subgroups Eighth, Tenth, and Twelfth Graders, 1995

Percent who used daily in last thirty days

	Marijuana			Alcohol						Cigarettes						Smokeless Tobacco[a]		
	Daily			Daily			5+ drinks[b]			One or more daily			Half-pack or more daily			Daily		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	0.8	2.8	4.6	0.7	1.7	3.5	14.5	24.0	29.8	9.3	16.3	21.6	3.4	8.3	12.4	1.2	2.7	3.6
Sex:																		
Male	1.1	3.7	6.5	0.9	2.6	5.5	15.1	26.3	36.9	9.2	16.3	21.7	3.7	8.7	13.2	2.2	5.2	7.2
Female	0.4	1.7	2.4	0.5	0.8	1.6	13.9	21.5	23.0	9.2	16.1	20.8	3.2	7.7	11.1	0.3	0.2	0.1
College Plans:																		
None or under 4 yrs	3.1	6.5	6.8	1.9	4.0	5.4	29.2	37.5	35.2	22.5	32.7	33.7	11.4	20.9	22.6	3.5	7.8	6.5
Complete 4 yrs	0.5	2.1	3.5	0.6	1.3	2.9	12.7	21.5	27.8	7.5	13.3	17.4	2.3	6.1	8.9	0.9	1.9	2.7
Region:																		
Northeast	0.5	1.9	5.1	0.6	1.5	2.8	12.6	22.1	31.2	9.2	15.8	22.5	3.7	7.7	13.4	0.6	2.0	2.2
North Central	0.8	2.9	4.1	0.7	1.8	4.3	14.2	25.3	34.3	11.0	17.6	25.7	4.4	9.5	14.2	1.1	2.5	4.9
South	0.8	3.2	4.3	0.7	1.8	3.8	15.7	24.5	28.6	9.4	19.3	21.7	3.6	10.3	12.6	1.8	4.1	4.2
West	1.2	2.7	5.3	0.8	1.8	2.8	14.4	23.1	24.2	7.0	9.4	14.5	1.8	3.4	8.4	0.8	1.1	1.6
Population Density:																		
Large MSA	1.1	2.5	5.3	0.6	1.3	3.5	12.3	20.2	28.3	7.6	12.6	21.3	2.5	6.0	12.3	0.4	1.5	2.1
Other MSA	0.9	3.1	4.5	0.6	1.8	3.5	14.2	24.1	28.4	9.3	17.5	19.9	3.6	9.2	11.1	0.9	2.3	3.2
Non-MSA	0.5	2.4	3.9	1.1	2.2	3.6	17.8	28.1	34.0	11.1	18.4	24.8	4.3	9.2	14.7	2.6	4.9	5.8
Parental Education:[c]																		
1.0-2.0 (Low)	2.0	4.1	4.0	1.4	2.9	3.9	23.2	30.5	26.6	15.8	20.0	21.3	8.2	12.0	13.5	2.2	3.6	2.7
2.5-3.0	0.9	3.6	4.9	0.8	2.0	3.9	17.8	26.7	31.2	11.3	21.6	24.6	4.1	12.2	15.1	1.7	3.4	4.7
3.5-4.0	0.7	2.8	4.0	1.0	1.7	2.7	15.0	24.6	29.5	9.4	17.0	21.6	3.6	8.6	12.7	1.2	2.8	2.9
4.5-5.0	0.6	1.9	4.3	0.4	1.3	3.9	11.0	21.6	29.9	7.2	12.6	19.7	2.0	5.0	9.8	0.9	2.9	3.5
5.5-6.0 (High)	0.6	2.0	3.9	0.6	0.9	3.5	10.5	19.0	30.7	5.7	10.3	18.5	1.5	4.0	9.1	0.8	1.0	2.7

NOTE: See Table 8 for sample sizes.
SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Data based on one form; N is one-half of N indicated for the 8th and 10th grades and one-sixth of N indicated for the 12th grade.

[b] This measure refers to use of five or more drinks in a row in the past two weeks.

[c] Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data was allowed on one of the two variables.

there is little sex difference among eighth and tenth graders. In fact, for some drugs females have slightly higher rates of use in eighth grade, including ***inhalants, stimulants, tranquilizers, cocaine, crack*** and ***other cocaine***. Thus, the sex differences in twelfth grade, with males more likely to use, seem to emerge over the course of middle to late adolescence.

- In twelfth grade, females have annual prevalence rates for ***stimulants*** that are close to those for males, and in the earlier grades females actually have higher rates of stimulant use.

- The number of high school seniors of both sexes who report using ***some illicit drug other than marijuana*** during the last year are not substantially different (21% for males vs. 17% for females; see Figure 12 in Chapter 5). If going beyond marijuana is an important threshold point in the sequence of illicit drug use, then fairly similar proportions of both sexes were willing to cross that threshold at least once during the year. However, on the average, the female "users" take fewer types of drugs and tend to use them with less frequency than their male counterparts.

- The use of ***anabolic steroids*** is heavily concentrated in the male population, with use among senior males at 2.4% in the past year compared to 0.6% among females. In eighth grade the difference is 1.3% vs. 0.8%.

- Frequent use of ***alcohol*** tends to be disproportionately concentrated among males. ***Daily use***, for example, is reported by 5.5% of the senior males vs. only 1.6% of the senior females. Also, males are more likely than females to drink large quantities of alcohol in a single sitting; 37% of senior males report drinking ***five or more drinks in a row*** in the prior two weeks vs. 23% of senior females.[19] These sex differences are observable at all three grade levels, but they are considerably larger among the older students.

- In recent years, ***smoking rates*** among seniors have been similar for males and females. In 1995, slightly more twelfth grade males report ***daily smoking*** in the past month (22% vs. 21% for females), as well as smoking ***half-pack or more per day*** (13.2% for males vs. 11.1% for females). In the eighth grade, daily smoking rates are the same for both sexes (9.2%), and in tenth grade the rates of daily smoking are very close for the two sexes (16.3% for males vs. 16.1% for females).

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[19] Because females tend to weigh less than males, and may metabolize alcohol somewhat differently, the same amount of ingested alcohol would, on average, lead to higher blood alcohol concentrations for females, compared to males. Therefore, the difference in terms of a fixed number of drinks, such as five or more drinks, may not reflect the difference in intoxication rates. The difference in self-reported prevalence of drunkenness among seniors is 9% (38% for males and 29% for females, 30-day), which is two-thirds the 14% difference in having five or more drinks in a row (37% vs. 23%).

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- ***Smokeless tobacco*** is used almost exclusively by males. While 24% of the twelfth grade males reported some use in the prior month, only 1.8% of the females did. Rates of daily use by males are 2.2% among eighth graders, 5.2% among tenth graders, and 7.2% among twelfth graders. The comparable statistics for females are only 0.3%, 0.2%, and 0.1%.

Differences Related to College Plans

Overall, students who say they probably or definitely will complete four years of college (referred to here as the "college-bound") have lower rates of illicit drug use than those who say they probably or definitely will not. (See Tables 6 through 9 and Figure 13 in Chapter 5). It is interesting to note that while the great majority of students at all three grade levels expect to complete college (see Table 7), the proportion who indicate college plans decreases at the higher grade levels, even though the lower grades contain 15%-20% who will eventually drop out of high school.

For any given drug, the differences between these two self-identified groups of college- or noncollege-bound students tend to be greatest in the eighth grade. This could reflect an earlier age of onset for the noncollege-bound, and/or the fact that fewer of the eventual dropouts have left school yet, thus increasing the differences in the lower grades.

- Annual ***marijuana*** use is reported by 33% of the college-bound seniors vs. 39% of the noncollege-bound, but among eighth graders it is reported by only 14% of the college-bound vs. 30% of the noncollege-bound.

- Among 1995 seniors who reported using ***any illicit drug other than marijuana*** in the past year, 18% of the college-bound reported any such behavior in the prior year vs. 24% of the noncollege-bound.

- Frequent use of many of these illicit drugs shows even larger contrasts related to college plans (see Table 9). ***Daily marijuana*** use among seniors, for example, is 1.9 times as high among those who do not plan to attend college (6.8%) as among the college-bound (3.5%). Among eighth graders it is six times as high and among tenth graders it is three times as high.

- Frequent alcohol use is also more prevalent among the noncollege-bound. For example, ***daily drinking*** is reported by 5.4% of the noncollege-bound seniors vs. 2.9% of the college-bound seniors. ***Binge drinking*** (five or more drinks in a row at least once during the preceding two weeks) is reported by 35% of the noncollege-bound seniors vs. 28% of the college-bound. On the other hand, there are very small differences between the college-bound and noncollege-bound seniors in lifetime, annual, or monthly prevalence of alcohol use. It is not so much drinking, but rather frequent and heavy drinking, which tend to differentiate these two groups by senior year. In the lower grades, there are even larger differences in the various drinking measures, including annual prevalence, between those who say they expect to go to college and those who do not (see Tables 7-9).

- At all three grade levels, somewhat higher proportions of noncollege-bound students use ***steroids*** compared to college-bound students. Annual use rates for the former are 2.2%, 2.1%, and 2.0%, respectively, for grades 8, 10, and 12. Among college-bound students, the corresponding rates are 0.9%, 1.1%, and 1.2%.

- By far, the largest and most dramatic difference in substance use between the college- and noncollege-bound involves ***cigarette*** smoking, with 8.9% of the college-bound seniors smoking ***a half-pack or more daily*** compared with 22.6% of the noncollege-bound seniors. The proportional differences are even larger in the lower grades: 2.3% vs. 11.4% in eighth grade and 6.1% vs. 20.9% in tenth grade. (The absence of dropouts by twelfth grade undoubtedly reduces the ratio, since dropouts have a particularly high rate of smoking.)

Regional Differences

Notable regional differences in rates of illicit drug use among high school seniors may be observed in Tables 6 through 9, and Figure 14a in Chapter 5. See Figure 5 for a ***regional division*** map of the states included in the four regions of the country as defined by the Census Bureau.

- In 1995, the overall rate of illicit drug use is similar among the regions: the highest rate is in the Northeast, where 42% of seniors say they have used an ***illicit drug*** in the past year, followed by the North Central (41%) and the West (38%). The South continues to have the lowest rate with 36% of the seniors reporting any illicit drug during the year (see Figure 14a in Chapter 5).

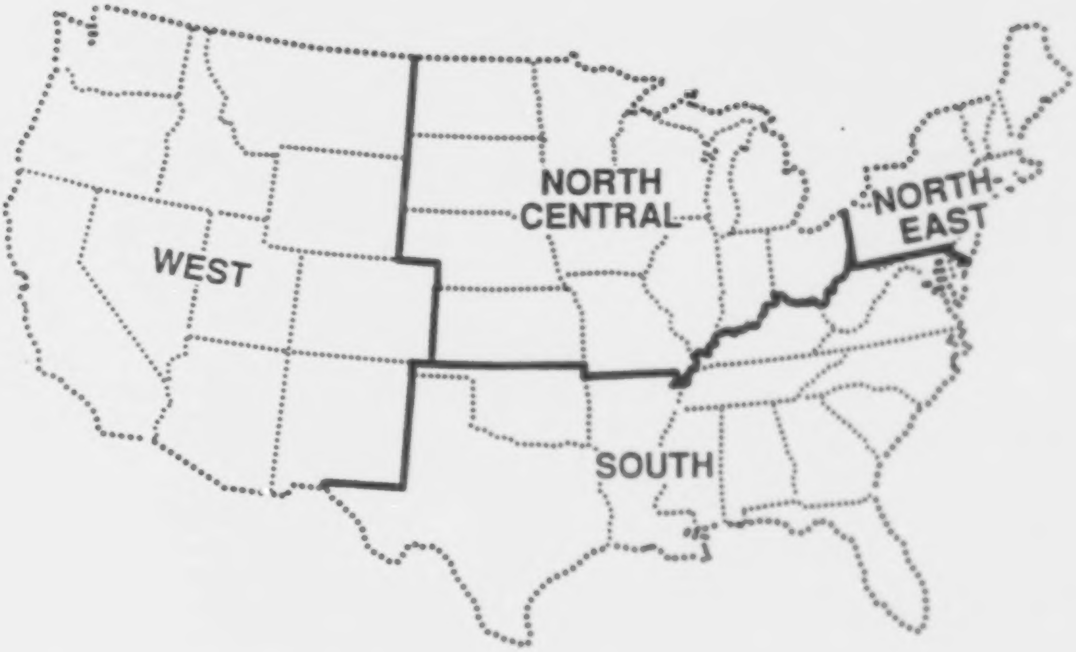
- At present, there are practically no regional variations in terms of the percentage of seniors using some ***illicit drug other than marijuana*** in the past year. The Northeast and West regions are highest on this index (20%), closely followed by the other two regions (at 19%).

- Among twelfth graders, there generally has been little difference in ***marijuana*** use among the regions, except that the South has typically been lower than the other three. For the younger students, the West is generally somewhat higher than the other three regions. In 1995, annual prevalence among eighth graders in the West and North Central regions are 18%, compared to 15% in the South and 13% in the Northeast.

- In the past, regional differences in ***cocaine*** use have been the largest observed. The West has tended to rank relatively high in the use of an ***illicit drug other than marijuana***, due in part to a high level of cocaine use. Annual prevalence of ***cocaine*** and ***crack*** is still highest

FIGURE 5

States Included in the Four Regions of the Country


NORTH CENTRAL
NORTH-EAST
WEST
SOUTH

These are the four major regions of the country as defined by the U.S. Bureau of the Census.

in the West for all grade levels. The West also ranks first among the regions in eighth and tenth graders' use of ***marijuana***, and ***other cocaine***.

Other specific illicit substances vary in the extent to which they show regional variation, as Table 7 illustrates for the annual prevalence measure.

- There consistently has been a large regional difference in the use of ***ice***. The highest rate among seniors is in the West at 4.7% annual prevalence, followed by the North Central (2.2%), the South (1.8%), and the Northeast (1.4%).

- The South shows the *lowest* rates of use for annual use of ***marijuana*** (in twelfth grade only), and both ***hallucinogens*** (unadjusted) and ***LSD*** in both eighth and twelfth grades; however, it has the *highest* rates of ***barbiturate*** and ***tranquilizer*** use.

- The Northeast stands out for having highest usage rates among seniors of ***marijuana***, ***inhalants*** (unadjusted), ***hallucinogens***, and ***LSD***. In the lower grades, however, other regions have the highest rates for all of these drugs.

- Among seniors the North Central region has the highest rates for ***other opiates***, ***cigarettes***, and ***smokeless tobacco*** and the lowest usage rates among seniors for ***other cocaine***. The use of other opiates in not reported for lower grades. Cigarettes and smokeless tobacco use in lower grades are high in both the North Central and the South.

- As has been true for some years, the annual and 30-day prevalence rates of ***alcohol*** use among seniors are somewhat lower in the South and West than in the Northeast and North Central regions, though there is little or no regional difference in the lower grades. The same is true for ***binge drinking***, though it is clearly lowest in the West among twelfth graders.

- The North Central and Northeast regions also have higher rates of ***daily smoking*** in twelfth grade (26% and 23%, respectively) than the South and the West (22% and 15%, respectively).

- In the lower grades also, the West has the least amount of ***daily smoking***, and the differences among the other regions are modest (Table 9).

Differences Related to Population Density

Three levels of population density (or urbanicity) have been distinguished for analytical purposes: (1) large MSAs, which are the 16 largest Metropolitan Statistical Areas in the 1990 Census; (2) other MSAs, which are the remaining Metropolitan Statistical Areas; and (3) non-MSAs, which are the sampling areas not designated as metropolitan by the Census. See Appendix B for further detail.

In general, the differences in the use of most illicit drugs across these different sizes of community are small, reflecting how widely illicit drug use has diffused through the population. (See Tables 6 through 9.)

- In twelfth grade, annual ***marijuana*** use is lower in the non-urban areas (31%) than in the large metropolitan areas (38%), or in the other metropolitan areas (35%).

- On the other hand, ***stimulant*** use is somewhat higher among tenth and twelfth grade students in non-urban areas than in the metropolitan areas.

- In all grades ***binge drinking*** is inversely related to community size, although the differences are not large (Table 9).

- ***Daily cigarette*** use is highest in the non-urban areas (Table 9) for all three grade levels, although the differences are not large.

- ***Smokeless tobacco*** use also is highest in the non-urban areas at all three grade levels, but in this case the differences are large. Current prevalence is two to three times as high in the non-urban areas as in the most urban (e.g., for eighth graders, 30-day prevalence is 4.1% in the large MSAs, 6.7% in the other MSAs, and 11.2% in the non-MSAs). Daily use of smokeless tobacco is even more concentrated in the more rural areas (see Tables 8 and 9). Clearly, the use of smokeless or "spit" tobacco tends to be concentrated in the rural males.

Differences Related to Parental Education

The best measure of family socioeconomic status available in the study is an index of parental education, which is based on the average of the educational levels reported for both parents by the respondent (or on the data for one parent, if data for both are not available). The scale values on the original questions are: (1) completed grade school or less, (2) some high school, (3) completed high school, (4) some college, (5) completed college, and (6) graduate or professional school after college. The average educational level obtained by students' parents has been rising over the years. Tables 7 and 8 give the distributions for 1995 for each grade level.

- By senior year there is rather little association with family socioeconomic status for ***most drugs***. This again speaks to the extent to which illicit drug use has permeated all social strata.

- However, an examination of Table 7 shows that in eighth grade, the lowest socioeconomic stratum (which represents less than 10% of the population) has a somewhat higher annual prevalence for nearly all drugs. Few of these relationships are ordinal: rather, the bottom category, or sometimes two categories, stand out as having higher usages rates than the others.

  Many of these differences have disappeared by tenth grade, and by twelfth grade some of these relationships have actually reversed, with the highest rate of use observed in the upper socioeconomic strata. This is true for ***marijuana, inhalants, hallucinogens,*** and ***LSD***, but *not* for ***cocaine, crack, heroin, stimulants, barbiturates, tranquilizers***, or ***cigarettes***. For these latter drugs the lower strata (or lowest stratum in some cases) remain the heaviest using at all three grade levels.

  The diminished socioeconomic differences by twelfth grade could be explained by the upper- and middle-class youngsters "catching up" with their more precocious peers from poor backgrounds. The diminished differences may also be explained by the fact that dropping out of school is correlated both with social class (negatively) and with drug use (positively).

- ***Daily smoking*** and ***smokeless tobacco*** use have inverse ordinal relationships with parental education in eighth grade, and nearly ordinal relationships in tenth and twelfth grades (Table 9). Thus, tobacco use in general bears a negative relationship to social class among young people.

Racial/Ethnic Differences

Racial/ethnic comparisons for blacks, Hispanics, and whites were added to this monograph series for the first time in 1991.[20] Although the design of this project did not include an oversampling of any minority groups, the large overall sample sizes at each grade level do produce fair numbers of black and Hispanic respondents each year. In the tabular data discussed here, we combine data from two adjacent years to increase the reliability of the estimates. We caution the reader that the sampling error of differences between groups is likely to be larger than would be true for other demographic and background variables such as sex or college plans, because blacks and Hispanics are more likely to be clustered by school. Table 10 gives the lifetime, annual, 30-day, and daily use statistics for the three racial/ethnic groups at all three grade levels, along with the numbers of cases upon which the estimates are based.

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[20] We recognize that the Hispanic category is a broad one, encompassing people with various Latin American and Caribbean origins, but for the purposes of this monograph the sample sizes unfortunately are too small to differentiate among them. For a more complete treatment of racial/ethnic differences, in which additional subgroups are distinguished and males and females are examined separately within each racial/ethnic category, see Bachman, J.G., Wallace, J.M., Jr., O'Malley, P.M., Johnston, L.D., Kurth, C.L., & Neighbors, H.W. (1991). Racial/ethnic differences in smoking, drinking, and illicit drug use among American high school seniors, 1976-1989. *American Journal of Public Health, 81*, 372-377.

TABLE 10

Racial/Ethnic Comparisons of Lifetime, Annual, Thirty-Day, and Daily Prevalence of Use of Various Types of Drugs Eighth, Tenth, and Twelfth Graders

NOTE: Percentages represent combined 1994 and 1995 data.[a]

	Marijuana			Inhalants[b,c]			Hallucinogens[c]			LSD			Cocaine			Crack		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Lifetime:																		
White	16.6	32.3	41.1	22.8	20.4	20.0	5.2	9.4	13.4	4.4	8.5	12.4	3.5	4.4	6.0	2.2	2.3	2.9
Black	17.0	28.6	34.7	10.8	8.0	6.8	1.1	1.7	1.9	0.9	1.5	1.6	1.5	1.3	1.5	1.1	1.1	1.3
Hispanic	26.3	37.5	39.8	22.6	16.5	14.6	5.9	9.0	11.4	5.0	8.2	10.4	8.2	8.7	9.4	5.1	4.1	4.7
Annual:																		
White	13.5	27.7	34.2	13.8	10.6	9.1	3.6	7.1	9.5	3.1	6.4	8.6	2.3	3.0	4.0	1.4	1.5	1.9
Black	11.9	20.9	26.8	5.0	2.8	2.6	0.6	1.2	1.2	0.5	1.0	1.0	0.6	0.9	1.0	0.5	0.6	1.0
Hispanic	20.4	29.2	29.7	13.3	8.5	5.8	4.0	6.3	7.1	3.3	5.7	6.4	4.7	5.5	5.5	2.7	2.5	3.1
30-Day:																		
White	7.8	16.8	20.8	6.6	3.9	3.3	1.6	3.1	4.1	1.3	2.7	3.7	0.9	1.4	1.6	0.5	0.7	0.8
Black	6.6	13.8	16.8	2.5	1.3	1.4	0.4	0.8	0.7	0.3	0.7	0.5	0.4	0.6	0.5	0.3	0.4	0.7
Hispanic	12.9	17.7	17.9	6.5	3.4	2.3	1.9	2.7	3.4	1.5	2.6	3.1	2.5	2.4	2.3	1.5	1.0	1.6
Daily:																		
White	0.7	2.5	4.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Black	0.7	1.7	3.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hispanic	1.2	2.5	3.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

NOTE: The following sample sizes are based on the 1994 and 1995 surveys combined:

Sample Sizes:	8th Grade	10th Grade	12th Grade
White	19,800	22,900	21,600
Black	5,600	3,300	3,300
Hispanic	4,000	2,900	2,700

SOURCE: The Monitoring the Future Study, the University of Michigan.

(Table continued on next page)

TABLE 10 (cont.)

Racial/Ethnic Comparisons of Lifetime, Annual, Thirty-Day, and Daily Prevalence of Use of Various Types of Drugs
Eighth, Tenth, and Twelfth Graders

NOTE: Percentages represent combined 1994 and 1995 data.[a]

	Other Cocaine[d]			Heroin[e]			Other Opiates[f]			Stimulants[f]			Barbiturates[f]			Tranquilizers[f]		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th[g]	12th	8th	10th	12th	8th	10th	12th
Lifetime:																		
White	2.8	3.8	5.2	2.0	1.6	1.4	—	—	7.8	13.6	17.7	17.3	—	—	7.9	4.5	6.2	7.6
Black	1.1	1.2	1.2	1.1	0.8	0.7	—	—	2.4	7.2	6.8	6.4	—	—	2.9	2.5	1.8	2.3
Hispanic	7.1	8.1	7.9	3.3	1.7	1.6	—	—	4.5	14.2	14.2	12.6	—	—	6.7	6.3	5.7	6.4
Annual:																		
White	1.8	2.6	3.3	1.2	1.0	0.8	—	—	5.0	9.3	12.4	10.7	—	—	4.9	2.7	4.1	4.6
Black	0.5	0.8	0.8	0.7	0.6	0.4	—	—	1.4	3.9	4.0	3.4	—	—	1.6	1.2	0.8	1.2
Hispanic	4.3	5.2	4.0	1.8	1.0	1.2	—	—	2.5	8.7	8.9	7.1	—	—	3.5	3.3	3.1	3.5
30-Day:																		
White	0.8	1.1	1.3	0.6	0.5	0.4	—	—	1.9	4.3	5.4	4.5	—	—	2.1	1.3	1.7	1.8
Black	0.3	0.4	0.4	0.4	0.4	0.3	—	—	0.8	2.2	2.3	1.7	—	—	0.7	0.5	0.5	0.6
Hispanic	2.3	2.2	1.2	0.9	0.4	0.5	—	—	0.8	4.2	3.8	3.1	—	—	1.4	1.4	1.5	1.1
Daily:																		
White	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Black	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hispanic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

SOURCE: The Monitoring the Future Study, the University of Michigan.

(Table continued on next page)

TABLE 10 (cont.)

Racial/Ethnic Comparisons of Lifetime, Annual, Thirty-Day, and Daily Prevalence of Use of Various Types of Drugs Eighth, Tenth, and Twelfth Graders

NOTE: Percentages represent combined 1994 and 1995 data.[a]

	Alcohol			Been Drunk[d]			5+ Drinks[h]			Cigarettes			Smokeless Tobacco[i]			Steroids[g]		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Lifetime:																		
White	54.0	71.9	82.9	26.1	49.6	67.6	—	—	—	46.9	60.2	66.6	22.9	33.0	36.3	2.0	2.0	2.3
Black	53.8	66.5	71.5	20.2	34.6	41.2	—	—	—	37.1	41.4	45.1	9.0	9.3	10.1	1.5	1.6	1.8
Hispanic	65.0	73.8	81.4	31.4	47.4	59.4	—	—	—	54.2	55.4	62.5	18.1	17.4	19.3	2.6	1.3	2.2
Annual:																		
White	46.5	65.9	76.6	19.4	41.6	57.7	—	—	—	—	—	—	—	—	—	1.1	1.2	1.4
Black	39.1	53.8	60.1	12.1	21.7	26.8	—	—	—	—	—	—	—	—	—	0.9	0.7	1.2
Hispanic	55.4	65.2	72.9	22.7	36.4	44.4	—	—	—	—	—	—	—	—	—	1.3	0.9	1.3
30-Day:																		
White	25.4	41.0	54.5	8.9	22.7	36.4	—	—	—	20.7	29.7	36.6	8.9	12.0	13.8	0.5	0.6	0.6
Black	18.7	28.0	35.2	5.6	9.8	13.2	—	—	—	8.9	11.5	12.9	2.6	2.5	2.1	0.5	0.5	0.9
Hispanic	32.4	40.5	48.7	10.8	18.6	24.2	—	—	—	21.6	21.4	25.1	5.7	3.6	7.6	0.7	0.4	0.9
Daily:																		
White	0.8	1.7	3.3	—	—	—	13.9	25.4	32.3	10.5	17.6	23.9	—	—	—	—	—	—
Black	0.9	1.0	2.5	—	—	—	10.8	13.3	14.9	2.8	4.7	6.1	—	—	—	—	—	—
Hispanic	1.5	2.3	3.5	—	—	—	22.0	26.8	26.6	9.2	9.9	11.6	—	—	—	—	—	—

NOTE: '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

[b] 12th grade only: Data based on five of six forms; N is five-sixths of N indicated.

[c] Unadjusted for known underreporting of certain drugs. See text for details.

[d] 12th grade only: Data based on four of six forms; N is four-sixths of N indicated.

[e] In 1995, the heroin question was changed in half of the questionnaire forms. Separate questions were asked for use with injection and without injection. Data presented here represent the combined data from all forms.

[f] Only drug use which was not under a doctor's orders is included here.

[g] 12th grade only: Data based on two of six forms; N is two-sixths of N indicated.

[h] This measure refers to use of five or more drinks in a row in the past two weeks.

[i] Data based on one form; N is one-half of N indicated for 8th and 10th grades and one-sixth of N indicated for 12th grade.

- Several general points can be derived from Table 10. First, for virtually ***all drugs***, licit and illicit, black *seniors* have reported lifetime and annual prevalence rates which are lower—sometimes dramatically lower—than those for white or Hispanic seniors. This is mostly true for the 30-day and daily prevalence statistics, as well, although there are a few exceptions.

  Second, the same can be said for black students in eighth and tenth grades which means that the low usage rates for blacks in twelfth grade almost certainly are not due to differential dropout rates.

- The third general point is that whites in the twelfth grade have the highest lifetime and annual prevalence rates for many drugs, including: ***marijuana, inhalants***, ***hallucinogens***, ***LSD*** specifically, ***opiates other than heroin***, ***amphetamines***, ***barbiturates***, ***tranquilizers, alcohol, cigarettes, smokeless tobacco***, and ***steroids***. Not all of these findings replicate at lower grade levels.

- Hispanics, taken as a group, have the highest lifetime and annual prevalence rates in senior year for some particularly dangerous classes of drugs. These include ***cocaine, crack, other cocaine***, and ***heroin***. Their rate of ***cocaine*** use is particularly high, compared to the other two racial/ethnic groups. Further, it should be remembered that Hispanics have a considerably higher dropout rate, based on Census Bureau statistics, than whites or blacks, which would tend to diminish any such differences by senior year.

- An examination of the racial/ethnic comparisons at lower grade levels shows Hispanics having higher rates of use not only on all the drugs on which they have the highest prevalence in twelfth grade but on a number of other drugs, as well. For example, in eighth grade 26% of Hispanic students report ever having used ***marijuana***, compared to 17% of both white and black students. For ***hallucinogens*** the lifetime prevalence in eighth grade for Hispanics, whites, and blacks is 6%, 5%, and 1%; for ***LSD***, 5%, 4%, and 1%; for ***tranquilizers***, 6%, 5%, and 3%; for ***cigarettes***, 54%, 47%, and 37%. In other words, in eighth grade—before most dropping out occurs—Hispanics have the highest rate of use of all the drugs except inhalants and smokeless tobacco; whereas by twelfth grade, whites are highest in most. Certainly the considerably higher dropout rate among Hispanics could explain this shift, and may be the most plausible explanation. Another explanation worth considering is that Hispanics may tend to start using drugs younger, but that whites overtake them at older ages. These explanations are not mutually exclusive, of course, and to some degree both explanations may be true.

- Looking at the daily use figures, we find exceptionally large absolute and proportional differences between the three groups in their rates of ***daily cigarette smoking***. Among seniors, whites have a 24% daily smoking rate, Hispanics 12% (which may be low, in part, because of their higher dropout rate), and blacks only 6%. In fact, blacks have much lower smoking rates at all grade levels.

- For tenth and twelfth grades, ***daily drinking*** among black students is somewhat lower than for whites and Hispanics.

- Recent ***binge drinking*** is also lowest among blacks at all grade levels: in twelfth grade 32% of whites report binge drinking vs. 27% of Hispanics and only 15% of blacks. In eighth grade, Hispanics have the highest rate at 22%, compared with 14% for whites and 11% for blacks.

Chapter 5

TRENDS IN DRUG USE

The first section of this chapter presents trends in drug use among high school seniors, comparing the twenty-one graduating classes of 1975 through 1995. Trends are also presented for grades 8 and 10 based on five years of survey data, 1991 through 1995. As in the previous chapter, the outcomes to be discussed include measures of lifetime use, use during the past year, use during the past month, and daily use. Trends in noncontinuation rates among twelfth graders are examined next, followed by a section on trends in use for the six key demographic dimensions discussed earlier: that is, by sex, college plans, region of the country, population density, socioeconomic status, and racial/ethnic group.

TRENDS IN PREVALENCE 1975-1995: TWELFTH GRADERS

Tables 11 through 14 give trends in lifetime, annual, 30-day, and current daily prevalence of use for all drugs mentioned in this chapter, based on the past twenty-one graduating classes. Figures 6 through 9 provide graphic depictions of these trends.

- The years 1978 and 1979 marked the crest of a long and dramatic rise in ***marijuana*** use among American high school seniors. As Tables 11 through 13 and Figure 9a illustrate, annual and 30-day prevalence of marijuana use leveled between 1978 and 1979, following a steady rise in the preceding years. In 1980, both annual and 30-day prevalence statistics dropped for the first time and continued to decline every year through 1992, except in 1985 when there was a brief pause. Then, beginning in 1993, annual use rose sharply. In both 1994 and 1995 it increased significantly by 4 or 5 percentage points each year, although the 1995 level of 35% is still 16 percentage points below its all-time high of 51% in 1979. Thirty-day use also rose significantly from the 1992 level of 12% to 21% in 1995.

  Lifetime prevalence began to drop in 1981, though more gradually than annual or 30-day use.[21] Today 42% of all seniors have tried marijuana before leaving high school, up significantly from 1992 when it was 33%, but still substantially below the peak of 60% in 1980. There have been important changes in the attitudes and beliefs that young people hold in relation to marijuana; and these changes appear to account for much of the long term decline in use, as well as the recent turnaround in use. (See Chapter 8 for a thorough discussion of attitudes and beliefs.)

- Of particular importance were the even sharper fluctuations which have occurred for active ***daily marijuana use*** (Table 14). Between 1975 and 1978 there was an almost two-fold increase in daily use. The

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[21] Lifetime use declines more gradually than the annual or 30-day statistics because it reflects changes in initiation rates only, whereas annual and 30-day reflect both changes in initiation rates *and* noncontinuation rates.

TABLE 11

Long-Term Trends in Lifetime Prevalence of Use of Various Types of Drugs for Twelfth Graders

	Percent ever used																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	*9400*	*15400*	*17100*	*17800*	*15500*	*15900*	*17500*	*17700*	*16300*	*15900*	*16000*	*15200*	*16300*	*16300*	*16700*	*15200*	*15000*	*15800*	*16300*	*15400*	*15400*	
Any Illicit Drug[a,b]	55.2	58.3	61.6	64.1	65.1	65.4	65.6	64.4	62.9	61.6	60.6	57.6	56.6	53.9	50.9	47.9	44.1	40.7	42.9	45.6	48.4	+2.8
Any Illicit Drug Other[a,b] *Than Marijuana*	36.2	35.4	35.8	36.5	37.4	38.7	42.8	41.1	40.4	40.3	39.7	37.7	35.8	32.5	31.4	29.4	26.9	25.1	26.7	27.6	28.1	+0.5
Marijuana/Hashish	47.3	52.8	56.4	59.2	60.4	60.3	59.5	58.7	57.0	54.9	54.2	50.9	50.2	47.2	43.7	40.7	36.7	32.6	35.3	38.2	41.7	+3.5s
Inhalants[c]	—	10.3	11.1	12.0	12.7	11.9	12.3	12.8	13.6	14.4	15.4	15.9	17.0	16.7	17.6	18.0	17.6	16.6	17.4	17.7	17.4	-0.3
Inhalants, Adjusted[c,d]	—	—	—	—	18.2	17.3	17.2	17.7	18.2	18.0	18.1	20.1	18.6	17.5	18.6	18.5	18.0	17.0	17.7	18.3	17.8	-0.5
Amyl & Butyl Nitrites[e,f]	—	—	—	—	11.1	11.1	10.1	9.8	8.4	8.1	7.9	8.6	4.7	3.2	3.3	2.1	1.6	1.5	1.4	1.7	1.5	-0.2
Hallucinogens	16.3	15.1	13.9	14.3	14.1	13.3	13.3	12.5	11.9	10.7	10.3	9.7	10.3	8.9	9.4	9.4	9.6	9.2	10.9	11.4	12.7	+1.3
Hallucinogens, Adjusted[g]	—	—	—	—	17.7	15.6	15.3	14.3	13.6	12.3	12.1	11.9	10.6	9.2	9.9	9.7	10.0	9.4	11.3	11.7	13.1	+1.4
LSD	11.3	11.0	9.8	9.7	9.5	9.3	9.8	9.6	8.9	8.0	7.5	7.2	8.4	7.7	8.3	8.7	8.8	8.6	10.3	10.5	11.7	+1.2
PCP[e,f]	—	—	—	—	12.8	9.6	7.8	6.0	5.6	5.0	4.9	4.8	3.0	2.9	3.9	2.8	2.9	2.4	2.9	2.8	2.7	-0.1
Cocaine	9.0	9.7	10.8	12.9	15.4	15.7	16.5	16.0	16.2	16.1	17.3	16.9	15.2	12.1	10.3	9.4	7.8	6.1	6.1	5.9	6.0	+0.1
Crack[h]	—	—	—	—	—	—	—	—	—	—	—	—	5.4	4.8	4.7	3.5	3.1	2.6	2.6	3.0	3.0	0.0
Other Cocaine[i]	—	—	—	—	—	—	—	—	—	—	—	—	14.0	12.1	8.5	8.6	7.0	5.3	5.4	5.2	5.1	-0.1
Heroin[j]	2.2	1.8	1.8	1.6	1.1	1.1	1.1	1.2	1.2	1.3	1.2	1.1	1.2	1.1	1.3	1.3	0.9	1.2	1.1	1.2	1.6	+0.4s
Other Opiates[k]	9.0	9.6	10.3	9.9	10.1	9.8	10.1	9.6	9.4	9.7	10.2	9.0	9.2	8.6	8.3	8.3	6.6	6.1	6.4	6.6	7.2	+0.6
Stimulants[k,l]	22.3	22.6	23.0	22.9	24.2	26.4	32.2	27.9	26.9	27.9	26.2	23.4	21.6	19.8	19.1	17.5	15.4	13.9	15.1	15.7	15.3	-0.4
Crystal Meth (Ice)[j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.7	3.3	2.9	3.1	3.4	3.9	+0.5
Sedatives[k,m]	18.2	17.7	17.4	16.0	14.6	14.9	16.0	15.2	14.4	13.3	11.8	10.4	8.7	7.8	7.4	7.5	6.7	6.1	6.4	7.3	7.6	+0.3
Barbiturates[k]	16.9	16.2	15.6	13.7	11.8	11.0	11.3	10.3	9.9	9.9	9.2	8.4	7.4	6.7	6.5	6.8	6.2	5.5	6.3	7.0	7.4	+0.4
Methaqualone[k,m]	8.1	7.8	8.5	7.9	8.3	9.5	10.6	10.7	10.1	8.3	6.7	5.2	4.0	3.3	2.7	2.3	1.3	1.6	0.8	1.4	1.2	-0.2
Tranquilizers[k]	17.0	16.8	18.0	17.0	16.3	15.2	14.7	14.0	13.3	12.4	11.9	10.9	10.9	9.4	7.6	7.2	7.2	6.0	6.4	6.6	7.1	+0.5
Alcohol[n]	90.4	91.9	92.5	93.1	93.0	93.2	92.6	92.8	92.6	92.6	92.2	91.3	92.2	92.0	90.7	89.5	88.0	87.5	87.0	—	—	—
																			80.0	80.4	80.7	+0.3
Been Drunk[j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	65.4	63.4	62.5	62.9	63.2	+0.3
Cigarettes	73.6	75.4	75.7	75.3	74.0	71.0	71.0	70.1	70.6	69.7	68.8	67.6	67.2	66.4	65.7	64.4	63.1	61.8	61.9	62.0	64.2	+2.2s
Smokeless Tobacco[e,o]	—	—	—	—	—	—	—	—	—	—	—	31.4	32.2	30.4	29.2	—	—	32.4	31.0	30.7	30.9	+0.2
Steroids[j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.0	2.9	2.1	2.1	2.0	2.4	2.3	-0.1

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

Footnotes for Table 11–Table 14

[a] Use of "any illicit drug" includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin, or any use of other opiates, stimulants, barbiturates, methaqualone (excluded since 1990), or tranquilizers not under a doctor's orders.

[b] Beginning in 1982 the question about stimulant use (i.e., amphetamines) was revised to get respondents to exclude the inappropriate reporting of non-prescription stimulants. The prevalence rate dropped slightly as a result of this methodological change.

[c] Data based on four of five forms in 1976–88; N is four-fifths of N indicated. Data based on five of six forms in 1989–95; N is five-sixths of N indicated.

[d] Adjusted for underreporting of amyl and butyl nitrites. See text for details.

[e] Data based on one form; N is one-fifth of N indicated in 1979–88 and one-sixth of N indicated in 1989–95.

[f] Question text changed slightly in 1987.

[g] Adjusted for underreporting of PCP. See text for details.

[h] Data based on one of five forms in 1986; N is one-fifth of N indicated. Data based on two forms in 1987–89; N is two-fifths of N indicated in 1987–88 and two-sixths of N indicated in 1989. Data based on six forms in 1990–95.

[i] Data based on one form in 1987–89; N is one-fifth of N indicated in 1987–88 and one-sixth of N indicated in 1989. Data based on four of six forms in 1990–95; N is four-sixths of N indicated.

[j] In 1995 the heroin question was changed in half of the questionnaire forms. Separate questions were asked for use with injection and without injection. Data presented here represents the combined data from all forms.

[k] Only drug use which was not under a doctor's orders is included here.

[l] Data based on two of six forms; N is two-sixths of N indicated. Steroid data based on one of six forms in 1989–90; N is one-sixth of N indicated in 1989–90. Steroid data based on two of six forms since 1991; N is two-sixths of N indicated since 1991.

[m] Sedatives: Data based on five forms in 1975-88, six forms in 1989, one form in 1990 (N is one-sixth of N indicated in 1990), and six forms of data adjusted by one-form data beginning in 1991. Methaqualone: Data based on five forms in 1975–88, six forms in 1989, and one of six forms beginning in 1990 (N is one-sixth of N indicated beginning in 1990).

[n] Data based on five forms in 1975–88 and on six forms in 1989–92. In 1993, the question text was changed slightly in three of six forms to indicate that a "drink" meant "more than a few sips." The data in the upper line for alcohol came from the three forms using the original wording (N is three-sixths of N indicated), while the data in the lower line came from the three forms containing the revised wording (N is three-sixths of N indicated). Data for 1994–95 were based on all six forms.

[o] Prevalence of smokeless tobacco was not asked of twelfth graders in 1990 and 1991. Prior to 1990 the prevalence question on smokeless tobacco was located near the end of one twelfth-grade questionnaire form, whereas after 1991 the question was placed earlier and in a different form. This shift could explain the discontinuities between the corresponding data.

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE 12

Long-Term Trends in Annual Prevalence of Use of Various Types of Drugs for Twelfth Graders

Percent who used in last twelve months

	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	*9400*	*15400*	*17100*	*17800*	*15500*	*15900*	*17500*	*17700*	*16300*	*15900*	*16000*	*15200*	*16300*	*16300*	*16700*	*15200*	*15000*	*15800*	*16300*	*15400*	*15400*	
Any Illicit Drug[a,b]	45.0	48.1	51.1	53.8	54.2	53.1	52.1	49.4	47.4	45.8	46.3	44.3	41.7	38.5	35.4	32.5	29.4	27.1	31.0	35.8	39.0	+3.2s
Any Illicit Drug Other Than Marijuana[a,b]	26.2	25.4	26.0	27.1	28.2	30.4	34.0	30.1	28.4	28.0	27.4	25.9	24.1	21.1	20.0	17.9	16.2	14.9	17.1	18.0	19.4	+1.4
Marijuana/Hashish	40.0	44.5	47.6	50.2	50.8	48.8	46.1	44.3	42.3	40.0	40.6	38.8	36.3	33.1	29.6	27.0	23.9	21.9	26.0	30.7	34.7	+4.0ss
Inhalants[c]	—	3.0	3.7	4.1	5.4	4.6	4.1	4.5	4.3	5.1	5.7	6.1	6.9	6.5	5.9	6.9	6.6	6.2	7.0	7.7	8.0	+0.3
Inhalants, Adjusted[c,d]	—	—	—	—	8.9	7.9	6.1	6.6	6.2	7.2	7.5	8.9	8.1	7.1	6.9	7.5	6.9	6.4	7.4	8.2	8.4	+0.2
Amyl/Butyl Nitrites[e,f]	—	—	—	—	6.5	5.7	3.7	3.6	3.6	4.0	4.0	4.7	2.6	1.7	1.7	1.4	0.9	0.5	0.9	1.1	1.1	0.0
Hallucinogens	11.2	9.4	8.8	9.6	9.9	9.3	9.0	8.1	7.3	6.5	6.3	6.0	6.4	5.5	5.6	5.9	5.8	5.9	7.4	7.6	9.3	+1.7ss
Hallucinogens, Adjusted[g]	—	—	—	—	11.8	10.4	10.1	9.0	8.3	7.3	7.6	7.6	6.7	5.8	6.2	6.0	6.1	6.2	7.8	7.8	9.7	+1.9ss
LSD	7.2	6.4	5.5	6.3	6.6	6.5	6.5	6.1	5.4	4.7	4.4	4.5	5.2	4.8	4.9	5.4	5.2	5.6	6.8	6.9	8.4	+1.5ss
PCP[e,f]	—	—	—	—	7.0	4.4	3.2	2.2	2.6	2.3	2.9	2.4	1.3	1.2	2.4	1.2	1.4	1.4	1.4	1.6	1.8	+0.2
Cocaine	5.6	6.0	7.2	9.0	12.0	12.3	12.4	11.5	11.4	11.6	13.1	12.7	10.3	7.9	6.5	5.3	3.5	3.1	3.3	3.6	4.0	+0.4
Crack[h]	—	—	—	—	—	—	—	—	—	—	—	4.1	3.9	3.1	3.1	1.9	1.5	1.5	1.5	1.9	2.1	+0.2
Other Cocaine[i]	—	—	—	—	—	—	—	—	—	—	—	—	9.8	7.4	5.2	4.6	3.2	2.6	2.9	3.0	3.4	+0.4
Heroin[j]	1.0	0.8	0.8	0.8	0.5	0.5	0.5	0.6	0.6	0.5	0.6	0.5	0.5	0.5	0.6	0.5	0.4	0.6	0.5	0.6	1.1	+0.5sss
Other Opiates[k]	5.7	5.7	6.4	6.0	6.2	6.3	5.9	5.3	5.1	5.2	5.9	5.2	5.3	4.6	4.4	4.5	3.5	3.3	3.6	3.8	4.7	+0.9ss
Stimulants[k,l]	16.2	15.8	16.3	17.1	18.3	20.8	26.0	20.3	17.9	17.7	15.8	13.4	12.2	10.9	10.8	9.1	8.2	7.1	8.4	9.4	9.3	-0.1
Crystal Meth. (Ice)[j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.3	1.4	1.3	1.7	1.8	2.4	+0.6
Sedatives[k,m]	11.7	10.7	10.8	9.9	9.9	10.3	10.5	9.1	7.9	6.6	5.8	5.2	4.1	3.7	3.7	3.6	3.6	2.9	3.4	4.2	4.9	+0.7s
Barbiturates[k]	10.7	9.6	9.3	8.1	7.5	6.8	6.6	5.5	5.2	4.9	4.6	4.2	3.6	3.2	3.3	3.4	3.4	2.8	3.4	4.1	4.7	+0.6
Methaqualone[k,m]	5.1	4.7	5.2	4.9	5.9	7.2	7.6	6.8	5.4	3.8	2.8	2.1	1.5	1.3	1.3	0.7	0.5	0.6	0.2	0.8	0.7	-0.1
Tranquilizers[k]	10.6	10.3	10.8	9.9	9.6	8.7	8.0	7.0	6.9	6.1	6.1	5.8	5.5	4.8	3.8	3.5	3.6	2.8	3.5	3.7	4.4	+0.7s
Alcohol[n]	84.8	85.7	87.0	87.7	88.1	87.9	87.0	86.8	87.3	86.0	85.6	84.5	85.7	85.3	82.7	80.6	77.7	76.8	76.0	—	—	—
																			72.7	73.0	73.7	+0.7
Been Drunk[j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	52.7	50.3	49.6	51.7	52.5	+0.8
Cigarettes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smokeless Tobacco[c,o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids[j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.9	1.7	1.4	1.1	1.2	1.3	1.5	+0.2

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available. See Table 11 for relevant footnotes.

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE 13

Long-Term Trends in Thirty-Day Prevalence of Use of Various Types of Drugs for Twelfth Graders

Percent who used in last thirty days

	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N	*9400*	*15400*	*17100*	*17800*	*15500*	*15900*	*17500*	*17700*	*16300*	*15900*	*16000*	*15200*	*16300*	*16300*	*16700*	*15200*	*15000*	*15800*	*16300*	*15400*	*15400*	
Any Illicit Drug[a,b]	30.7	34.2	37.6	38.9	38.9	37.2	36.9	32.5	30.5	29.2	29.7	27.1	24.7	21.3	19.7	17.2	16.4	14.4	18.3	21.9	23.8	+1.9
Any Illicit Drug Other Than Marijuana[a,b]	15.4	13.9	15.2	15.1	16.8	18.4	21.7	17.0	15.4	15.1	14.9	13.2	11.6	10.0	9.1	8.0	7.1	6.3	7.9	8.8	10.0	+1.2s
Marijuana/Hashish	27.1	32.2	35.4	37.1	36.5	33.7	31.6	28.5	27.0	25.2	25.7	23.4	21.0	18.0	16.7	14.0	13.8	11.9	15.5	19.0	21.2	+2.2s
Inhalants[c]	—	0.9	1.3	1.5	1.7	1.4	1.5	1.5	1.7	1.9	2.2	2.5	2.8	2.6	2.3	2.7	2.4	2.3	2.5	2.7	3.2	+0.5
Inhalants, Adjusted[c,d]	—	—	—	—	3.2	2.7	2.5	2.5	2.5	2.6	3.0	3.2	3.5	3.0	2.7	2.9	2.6	2.5	2.8	2.9	3.5	+0.6
Amyl/Butyl Nitrites[e,f]	—	—	—	—	2.4	1.8	1.4	1.1	1.4	1.4	1.6	1.3	1.3	0.6	0.6	0.6	0.4	0.3	0.6	0.4	0.4	0.0
Hallucinogens	4.7	3.4	4.1	3.9	4.0	3.7	3.7	3.4	2.8	2.6	2.5	2.5	2.5	2.2	2.2	2.2	2.2	2.1	2.7	3.1	4.4	+1.3sss
Hallucinogens, Adjusted[g]	—	—	—	—	5.3	4.4	4.5	4.1	3.5	3.2	3.8	3.5	2.8	2.3	2.9	2.3	2.4	2.3	3.3	3.2	4.6	+1.4sss
LSD	2.3	1.9	2.1	2.1	2.4	2.3	2.5	2.4	1.9	1.5	1.6	1.7	1.8	1.8	1.8	1.9	1.9	2.0	2.4	2.6	4.0	+1.4sss
PCP[e,f]	—	—	—	—	2.4	1.4	1.4	1.0	1.3	1.0	1.6	1.3	0.6	0.3	1.4	0.4	0.5	0.6	1.0	0.7	0.6	-0.1
Cocaine	1.9	2.0	2.9	3.9	5.7	5.2	5.8	5.0	4.9	5.8	6.7	6.2	4.3	3.4	2.8	1.9	1.4	1.3	1.3	1.5	1.8	+0.3
Crack[h]	—	—	—	—	—	—	—	—	—	—	—	—	1.3	1.6	1.4	0.7	0.7	0.6	0.7	0.8	1.0	+0.2
Other Cocaine[i]	—	—	—	—	—	—	—	—	—	—	—	—	4.1	3.2	1.9	1.7	1.2	1.0	1.2	1.3	1.3	0.0
Heroin[j]	0.4	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.3	0.6	+0.3sss
Other Opiates[k]	2.1	2.0	2.8	2.1	2.4	2.4	2.1	1.8	1.8	1.8	2.3	2.0	1.8	1.6	1.6	1.5	1.1	1.2	1.3	1.5	1.8	+0.3
Stimulants[k,l]	8.5	7.7	8.8	8.7	9.9	12.1	15.8	10.7	8.9	8.3	6.8	5.5	5.2	4.6	4.2	3.7	3.2	2.8	3.7	4.0	4.0	0.0
Crystal Meth. (Ice)[i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.6	0.6	0.5	0.6	0.7	1.1	+0.4
Sedatives[k,m]	5.4	4.5	5.1	4.2	4.4	4.8	4.6	3.4	3.0	2.3	2.4	2.2	1.7	1.4	1.6	1.4	1.5	1.2	1.3	1.8	2.3	+0.5s
Barbiturates[k]	4.7	3.9	4.3	3.2	3.2	2.9	2.6	2.0	2.1	1.7	2.0	1.8	1.4	1.2	1.4	1.3	1.4	1.1	1.3	1.7	2.2	+0.5ss
Methaqualone[k,m]	2.1	1.6	2.3	1.9	2.3	3.3	3.1	2.4	1.8	1.1	1.0	0.8	0.6	0.5	0.6	0.2	0.2	0.4	0.1	0.4	0.4	0.0
Tranquilizers[k]	4.1	4.0	4.6	3.4	3.7	3.1	2.7	2.4	2.5	2.1	2.1	2.1	2.0	1.5	1.3	1.2	1.4	1.0	1.2	1.4	1.8	+0.4s
Alcohol[n]	68.2	68.3	71.2	72.1	71.8	72.0	70.7	69.7	69.4	67.2	65.9	65.3	66.4	63.9	60.0	57.1	54.0	51.3	51.0	—	—	—
																			48.6	50.1	51.3	+1.2
Been Drunk[i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31.6	29.9	28.9	30.8	33.2	+2.4
Cigarettes	36.7	38.8	38.4	36.7	34.4	30.5	29.4	30.0	30.3	29.3	30.1	29.6	29.4	28.7	28.6	29.4	28.3	27.8	29.9	31.2	33.5	+2.3s
Smokeless Tobacco[e,o]	—	—	—	—	—	—	—	—	—	—	—	11.5	11.3	10.3	8.4	—	—	11.4	10.7	11.1	12.2	+1.1
Steroids[i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8	1.0	0.8	0.6	0.7	0.9	0.7	-0.2

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available. See Table 11 for relevant footnotes.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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TABLE 14

Long-Term Trends in Thirty-Day Prevalence of Daily Use of Various Types of Drugs for Twelfth Graders

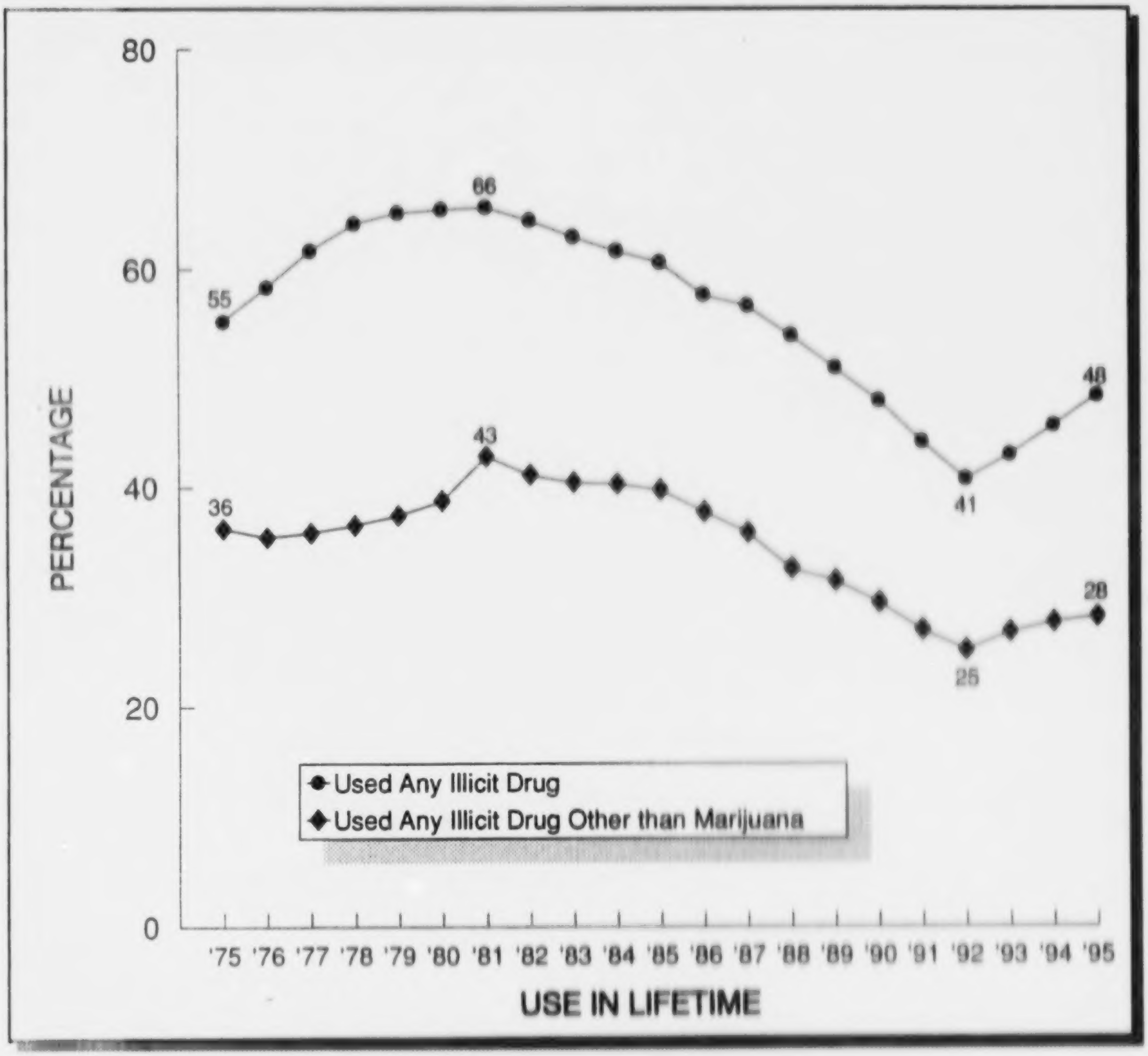
	Percent who used daily in last thirty days																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	*9400*	*15400*	*17100*	*17800*	*15500*	*15900*	*17500*	*17700*	*16300*	*15900*	*16000*	*15200*	*16300*	*16300*	*16700*	*15200*	*15000*	*15800*	*16300*	*15400*	*15400*	
Marijuana/Hashish	6.0	8.2	9.1	10.7	10.3	9.1	7.0	6.3	5.5	5.0	4.9	4.0	3.3	2.7	2.9	2.2	2.0	1.9	2.4	3.6	4.6	+1.0ss
Inhalants[c]	—	*	*	0.1	*	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.3	0.2	0.1	0.1	0.1	0.1	+0.1
Inhalants, Adjusted[c,d]	—	—	—	—	0.1	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.3	0.3	0.3	0.5	0.2	0.2	—	—	—
Amyl & Butyl Nitrites[e,f]	—	—	—	—	*	0.1	0.1	0.0	0.2	0.1	0.3	0.5	0.3	0.1	0.3	0.1	0.2	0.1	0.1	0.2	0.2	-0.1
Hallucinogens	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Hallucinogens, Adjusted[g]	—	—	—	—	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.2	*	0.3	0.3	0.1	0.1	0.1	—	—	—
LSD	*	*	*	*	*	*	0.1	*	0.1	0.1	0.1	*	0.1	*	*	0.1	0.1	0.1	0.1	0.1	0.1	0.0
PCP[e,f]	—	—	—	—	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.3	0.1	0.2	0.1	0.1	0.1	0.1	0.3	0.3	0.0
Cocaine	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.2	+0.1
Crack[h]	—	—	—	—	—	—	—	—	—	—	—	—	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Other Cocaine[i]	—	—	—	—	—	—	—	—	—	—	—	—	0.2	0.2	0.1	0.1	0.1	*	0.1	0.1	0.1	+0.1
Heroin[j]	0.1	*	*	*	*	*	*	*	0.1	*	*	*	*	*	0.1	*	*	*	*	*	0.1	0.0
Other Opiates[j]	0.1	0.1	0.2	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	*	*	0.1	0.1	0.0
Stimulants[j,k]	0.5	0.4	0.5	0.5	0.6	0.7	1.2	0.7	0.8	0.6	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	+0.1
Crystal Meth. (Ice)[l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.1	0.1	0.1	0.1	*	0.1	0.0
Sedatives[j,m]	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	*	0.1	+0.1
Barbiturates[j]	0.1	0.1	0.2	0.1	*	0.1	0.1	0.1	0.1	*	0.1	0.1	0.1	*	0.1	0.1	0.1	*	0.1	*	0.1	+0.1
Methaqualone[j,m]	*	*	*	*	*	0.1	0.1	0.1	*	*	*	*	*	0.1	*	*	*	0.1	0.0	0.1	0.1	0.0
Tranquilizers[j]	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	*	*	0.1	*	0.1	0.1	0.1	*	*	0.1	*	0.0
Alcohol																						
Daily[n]	5.7	5.6	6.1	5.7	6.9	6.0	6.0	5.7	5.5	4.8	5.0	4.8	4.8	4.2	4.2	3.7	3.6	3.4	2.5 3.4	— 2.9	— 3.5	— +0.6ss
Been drunk daily[i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.9	0.8	0.9	1.2	1.3	+0.1
5+ drinks in a row in last 2 weeks	36.8	37.1	39.4	40.3	41.2	41.2	41.4	40.5	40.8	38.7	36.7	36.8	37.5	34.7	33.0	32.2	29.8	27.9	27.5	28.2	29.8	+1.6
Cigarettes																						
Daily	26.9	28.8	28.8	27.5	25.4	21.3	20.3	21.1	21.2	18.7	19.5	18.7	18.7	18.1	18.9	19.1	18.5	17.2	19.0	19.4	21.6	+2.2s
Half-pack or more per day	17.9	19.2	19.4	18.8	16.5	14.3	13.5	14.2	13.8	12.3	12.5	11.4	11.4	10.6	11.2	11.3	10.7	10.0	10.9	11.2	12.4	+1.2
Smokeless Tobacco[e,o]	—	—	—	—	—	—	—	—	—	—	—	4.7	5.1	4.3	3.3	—	—	4.3	3.3	3.9	3.6	-0.4
Steroids[i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.1	0.2	0.1	0.1	0.1	0.4	0.2	-0.2

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available. '*' indicates less than .05 percent. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent classes is due to rounding error. See Table 11 for relevant footnotes.

SOURCE: The Monitoring the Future Study, the University of Michigan.

FIGURE 6

Trends in Lifetime Prevalence of an Illicit Drug Use Index for Twelfth Graders



NOTES: Use of "any illicit drugs" includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin, or any use which is not under a doctor's orders of other opiates, stimulants, barbiturates, methaqualone (excluded since 1990), or tranquilizers.

Beginning in 1982 the question about stimulant use (i.e., amphetamines) was revised to get respondents to exclude the inappropriate reporting of non-prescription stimulants. The prevalence rate dropped slightly as a result of this methodological change.

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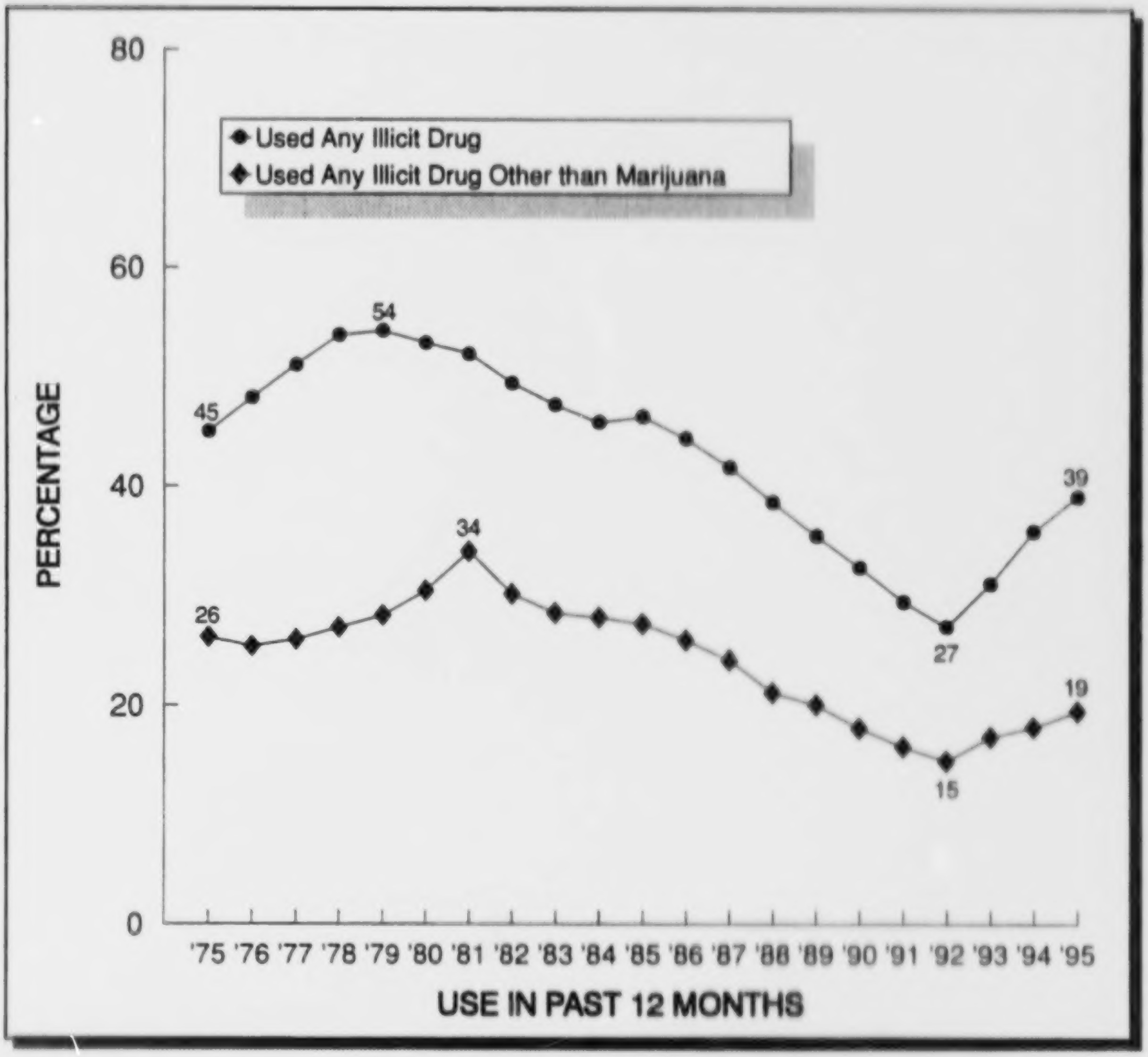
FIGURE 7

Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders



NOTES: Use of "any illicit drugs" includes any use of marijuana, LSD, other hallucinogens, crack or other cocaine, or heroin, or any use which is not under a doctor's orders of other opiates, stimulants, barbiturates, methaqualone (excluded since 1990), or tranquilizers.

Beginning in 1982 the question about stimulant use (i.e., amphetamines) was revised to get respondents to exclude the inappropriate reporting of non-prescription stimulants. The prevalence rate dropped slightly as a result of this methodological change.

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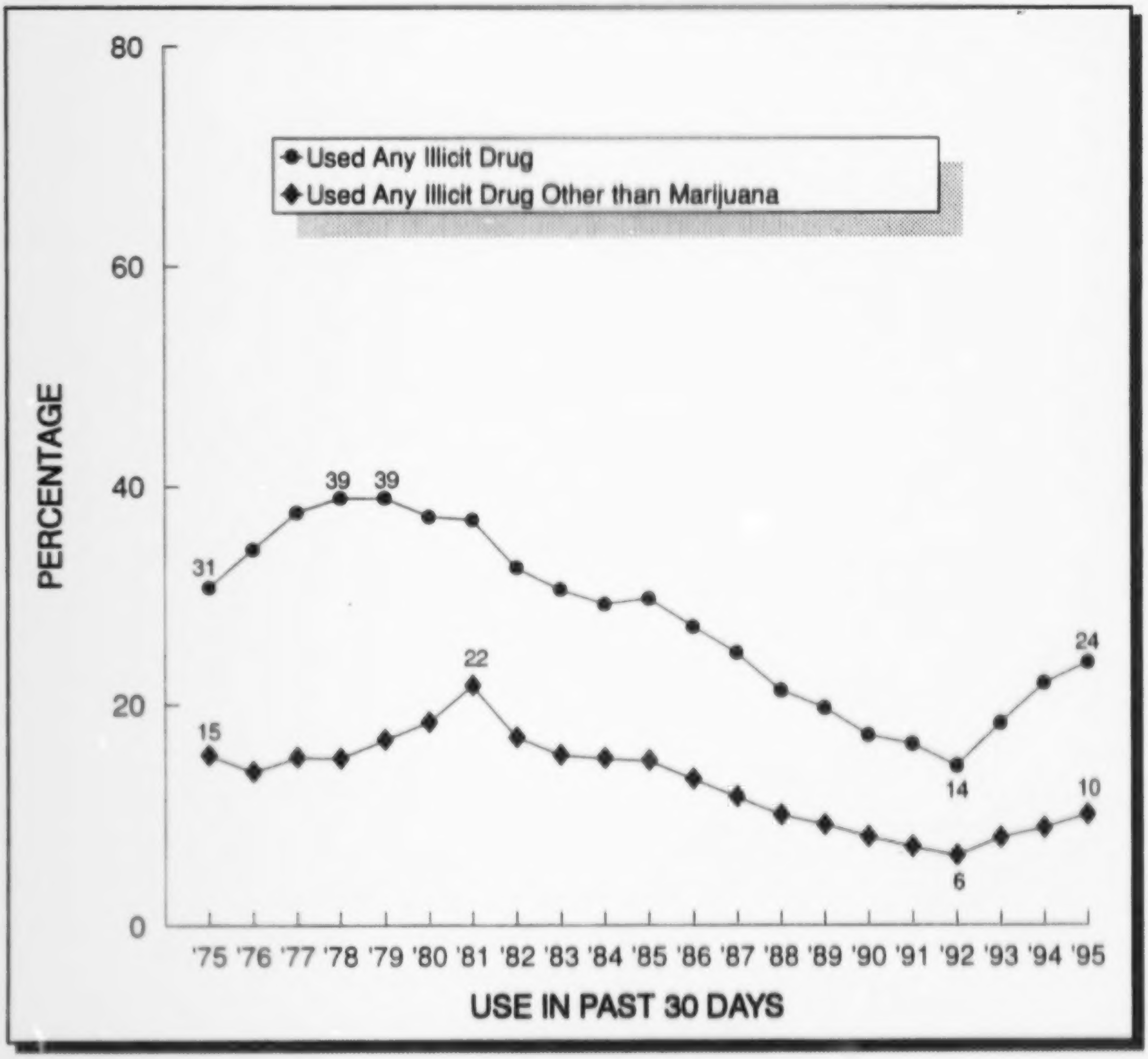
FIGURE 8

Trends in Thirty-Day Prevalence of an Illicit Drug Use Index for Twelfth Graders



NOTES: Use of "any illicit drugs" includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin, or any use which is not under a doctor's orders of other opiates, stimulants, barbiturates, methaqualone (excluded since 1990), or tranquilizers.

Beginning in 1982 the question about stimulant use (i.e., amphetamines) was revised to get respondents to exclude the inappropriate reporting of non-prescription stimulants. The prevalence rate dropped slightly as a result of this methodological change.

proportion reporting daily use in the class of 1975 (6%) came as a surprise to many; and then that proportion rose rapidly, so that by 1978 one in every nine high school seniors (11%) indicated that he or she used the drug on a daily or nearly daily basis (defined as use on 20 or more occasions in the last 30 days). In 1979 this rapid and troublesome increase halted, followed by a rapid reversal. By 1992 the daily usage rate had dropped to 1.9%, well below the peak rate of 11% or even the 6% level first observed in 1975. We attribute much of this dramatic decline to a very substantial increase in concerns about possible adverse effects from regular use, and to a growing perception that peers would disapprove of marijuana use, particularly regular use. In 1993, for the first time in fifteen years, daily marijuana use increased significantly, from 1.9% in 1992 to 2.4%. Another significant increase to 5.6% occurred in 1994, and again in 1995, reaching 4.6%, the highest rate since 1986.

- Until 1978, the proportion of seniors involved in ***any illicit drug use*** increased steadily, primarily because of the increase in marijuana use (see Figures 6-8). About 54% of the classes of 1978 and 1979 reported taking at least one illicit drug during the prior year, up from our first observation of 45% in the class of 1975. Between 1979 and 1984, however, the proportion reporting using any illicit drug during the prior year dropped by 1% or 2% annually until 1985, when there was a brief pause in the decline. In 1986 the decline resumed, with annual prevalence dropping significantly to 27% by 1992, exactly half of what it was in 1979. As with marijuana, the annual prevalence rate has increased since then to 39%.

- As Figure 6 and Table 11 illustrate, between 1976 and 1981 there was a very gradual, steady increase in the proportion of twelfth graders using ***some illicit drug other than marijuana***[22]. The annual prevalence of such behaviors (Figure 7 and Table 12), which rose by nine percentage points between 1976 and 1981 (from 25% to 34%), began a steady decline to 15% in 1992. Since 1992 annual prevalence has been rising again, to 19% in 1995. The 30-day prevalence figure exhibited the largest proportional drop, from 22% in 1981 to 6% in 1992 (see Figure 8 and Table 13). In 1993, these measures showed a significant increase, indicating that the turnaround in 1993 was not confined to marijuana use. Annual prevalence rose from 15% to 17% in 1993. In 1994 and 1995 only slight increases (non-significant) were seen in this measure. When compared to the large increases seen in the any illicit use index it is apparent that the marijuana increase is the main cause of the increase in the use of *any* illicit drug use in 1995.

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[22] Included under the definition of "any illicit drug other than marijuana" is any use of LSD, other hallucinogens, crack, other cocaine, heroin, and/or any use which is not under a doctor's orders of other opiates, stimulants, barbiturates, methaqualone (excluded since 1990), or tranquilizers. Not included are the following: alcohol, tobacco, inhalants, nitrites, PCP, ice, or steroids.

Most of the earlier rise in the use of some ***illicit drug other than marijuana*** appeared to be due to the increasing popularity of cocaine with this age group between 1976 and 1979, and then to the increasing use of stimulants between 1979 and 1981. As stated earlier in this volume, we believe that the upward shift in stimulant use was exaggerated because some respondents included instances of using over-the-counter stimulants in their reports of amphetamine use. Figures 6 through 8 show trends which, beginning in 1982, were revised to exclude the inappropriate reporting of these non-prescription stimulants.

- Although the overall proportion using ***illicit drugs other than marijuana*** has changed gradually and steadily over the years, much greater fluctuations have occurred for specific drugs within the class. This is important to recognize, because it shows that while the proportion willing to try any illicit drug may put outer limits on the amplitude of fluctuations for any one of them, the various subclasses of drugs must have important determinants specific to them–variables such as perceived risks, peer normative attitudes, assumed benefits, and availability. Such variables will be discussed in Chapters 8 and 9. (See Tables 11 through 13 for the long-term trends in twelfth graders' lifetime, annual, and monthly prevalence for each class of drugs. Figures 9a through 9i graph these trends for annual prevalence, along with the trends for eighth and tenth graders.)

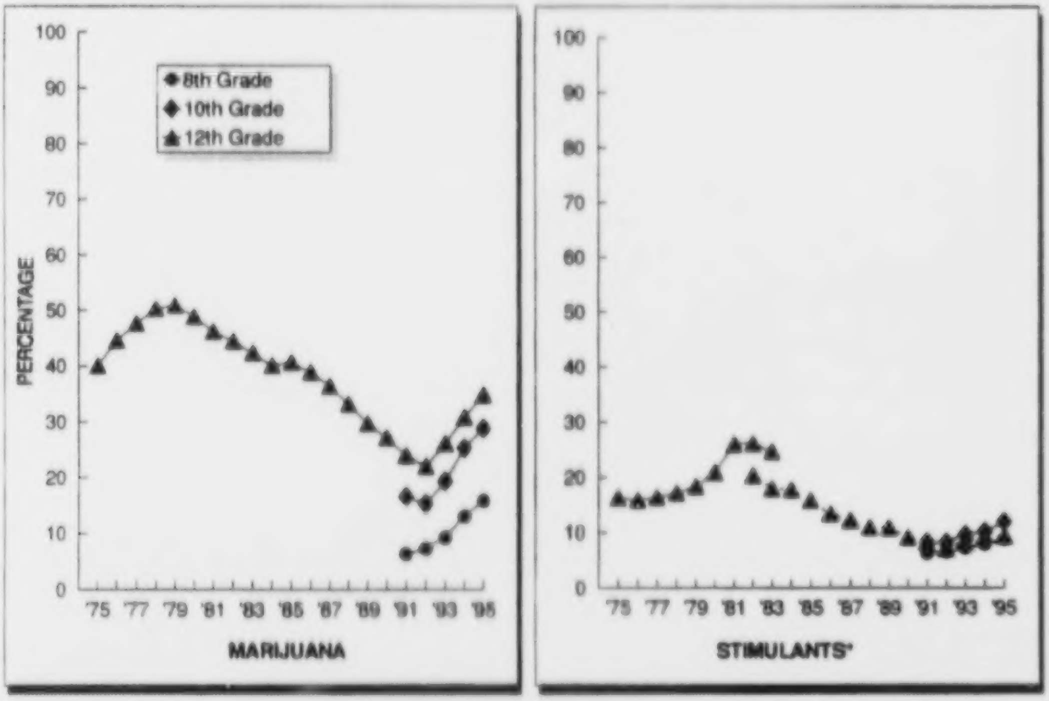
- From 1976 to 1979 ***cocaine*** (Figure 9e) exhibited a substantial increase in popularity, with annual prevalence rising from 6% in the class of 1976 to 12% in the class of 1979–a two-fold increase in just three years. Nationally there was little or no change in any of the cocaine prevalence statistics for seniors between 1979 and 1984. (Subgroup differences in trends are discussed below.) In 1985, we reported statistically significant increases in annual and monthly use, then a leveling again in 1986. Since 1986 both indicators of use have decreased by three-quarters or more: annual use decreased from 12.7% in 1986 to 3.1% in 1992; monthly use decreased from 6.2% to 1.3% over the same period. (Reasons for this decrease are discussed in the chapter on attitudes and beliefs.) Since then, annual prevalence has risen modestly from 3.1% to 4.0% in 1995 and 30-day prevalence has risen from 1.3% to 1.8%.

- Use of ***crack cocaine*** was first measured in 1986 by a single question contained in one questionnaire form, and asked only of those respondents who had reported any use of cocaine in the past 12 months. It simply asked if crack was one of the forms of cocaine they had used. It was thus an estimate of the annual prevalence of crack use.

  However, prior to 1986 other indicators gathered routinely in the study show some indirect evidence of the rapid spread of crack. For example, we found that the proportion of all seniors reporting that they smoked

FIGURE 9a

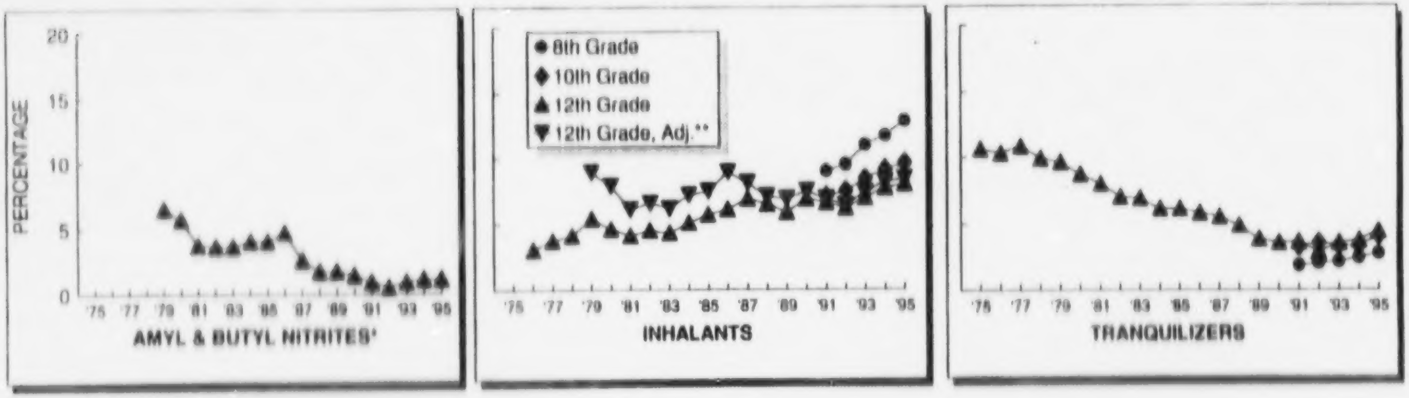
Trends in Annual Prevalence of Various Drugs for Eighth, Tenth, and Twelfth Graders



*The dotted lines connect percentages which result if non-prescription stimulants are excluded.

FIGURE 9b

Trends in Annual Prevalence of Various Drugs for Eighth, Tenth, and Twelfth Graders

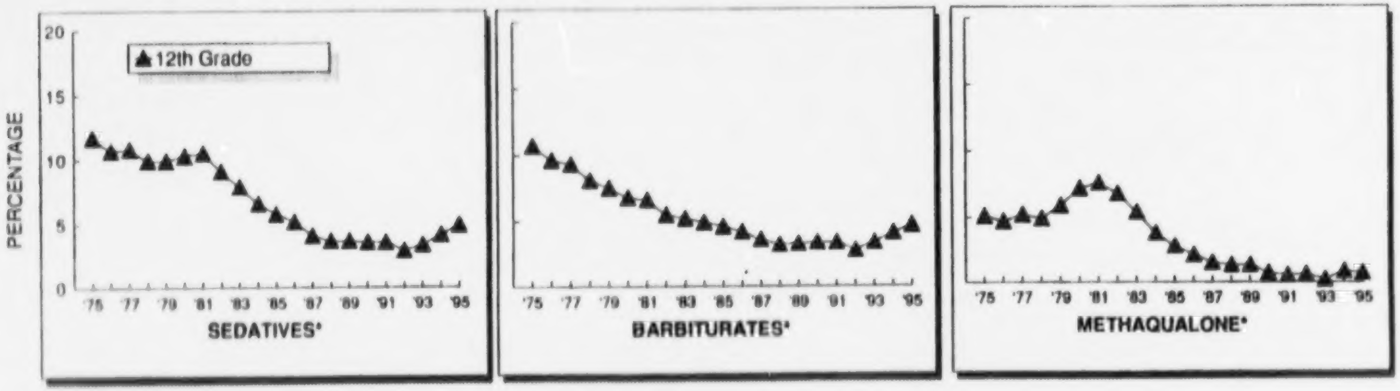


*8th and 10th graders are not asked about nitrite use.

**Adjusted for underreporting of amyl and butyl nitrites.

FIGURE 9c

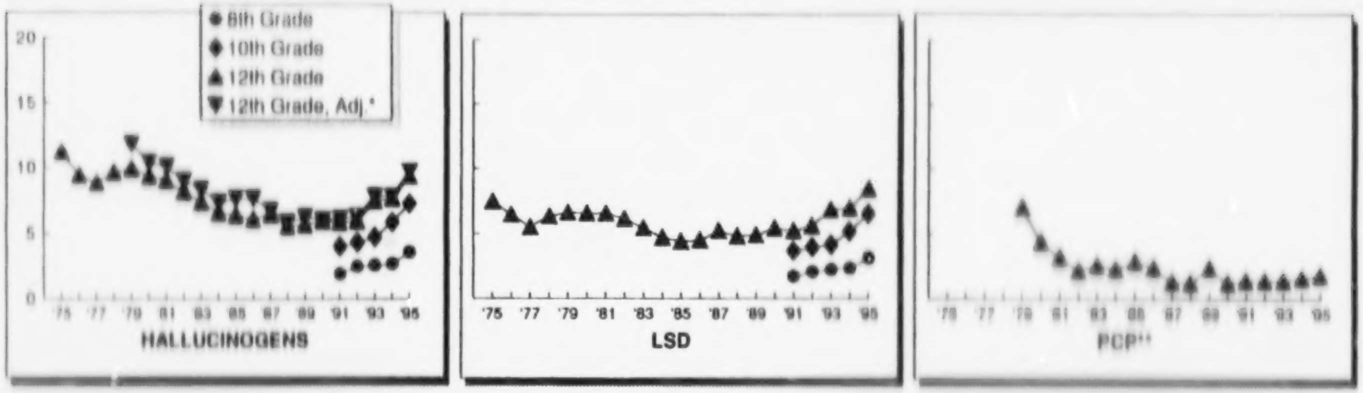
Trends in Annual Prevalence of Various Drugs for Eighth, Tenth, and Twelfth Graders



*8th and 10th graders are not asked about sedatives, barbiturates, and methaqualone use.

FIGURE 9d

Trends in Annual Prevalence of Various Drugs *for Eighth, Tenth, and Twelfth Graders*



*Adjusted for underreporting of PCP.

**8th and 10th graders are not asked about PCP use.

FIGURE 9e

Trends in Annual Prevalence of Various Drugs for Eighth, Tenth, and Twelfth Graders

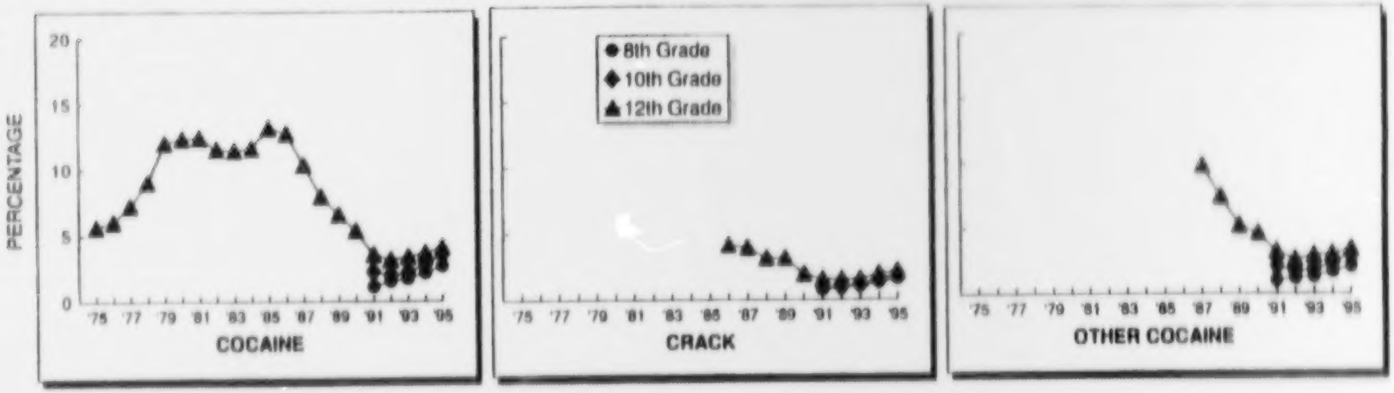
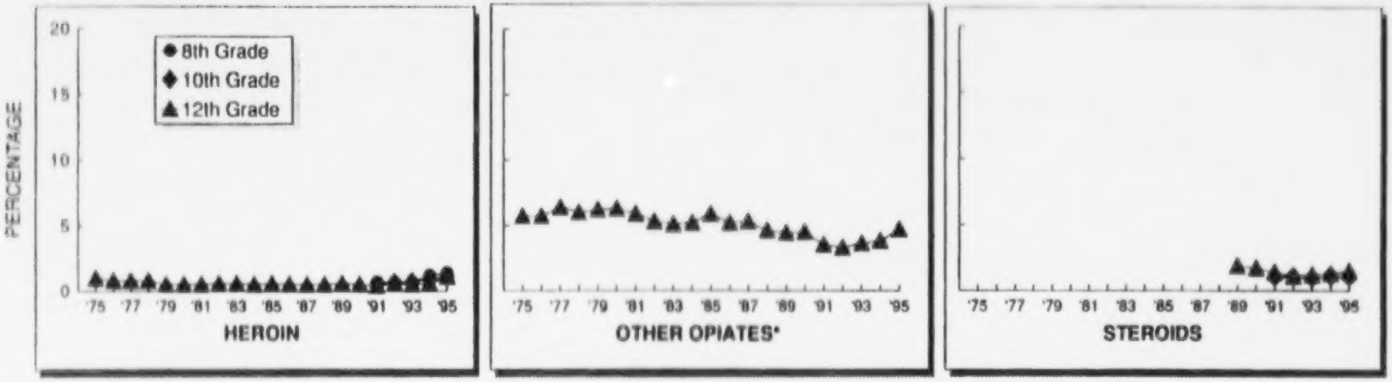


FIGURE 9f

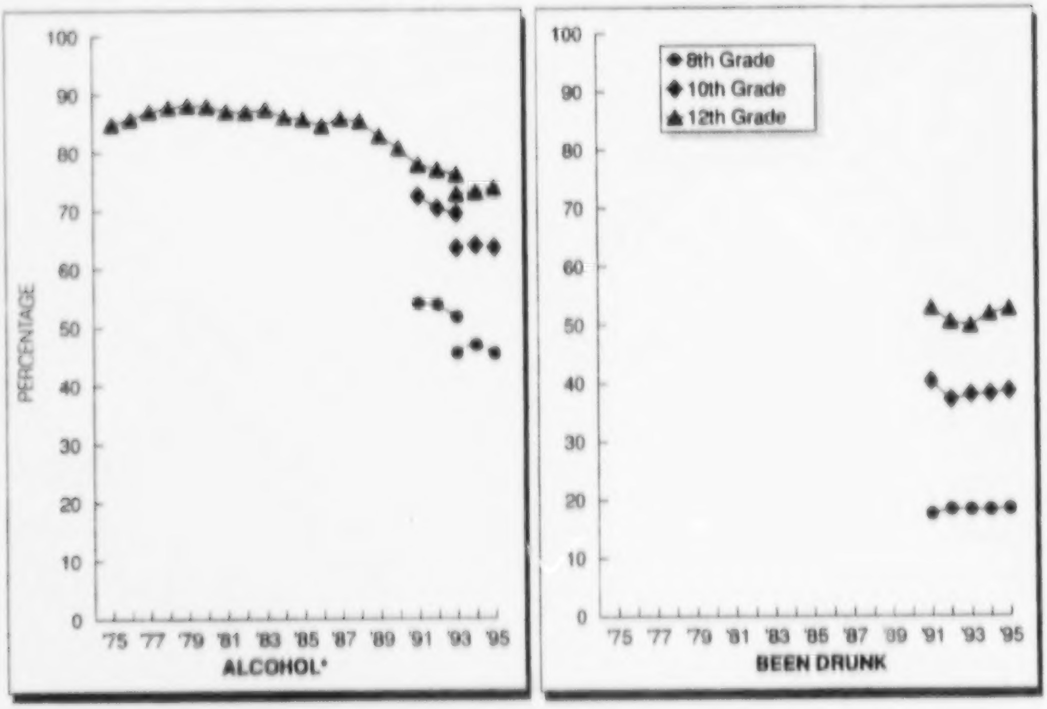
Trends in Annual Prevalence of Various Drugs for Eighth, Tenth, and Twelfth Graders



*8th and 10th graders are not asked about other opiate use.

FIGURE 9g

Trends in Annual Prevalence of Various Drugs for Eighth, Tenth, and Twelfth Graders



*Beginning in 1993 a revised set of questions on alcohol use was introduced, in which respondents were told that an occasion of use meant "more than just a few sips." The dotted lines connect percentages which are based on data from the revised questions. See text for details.

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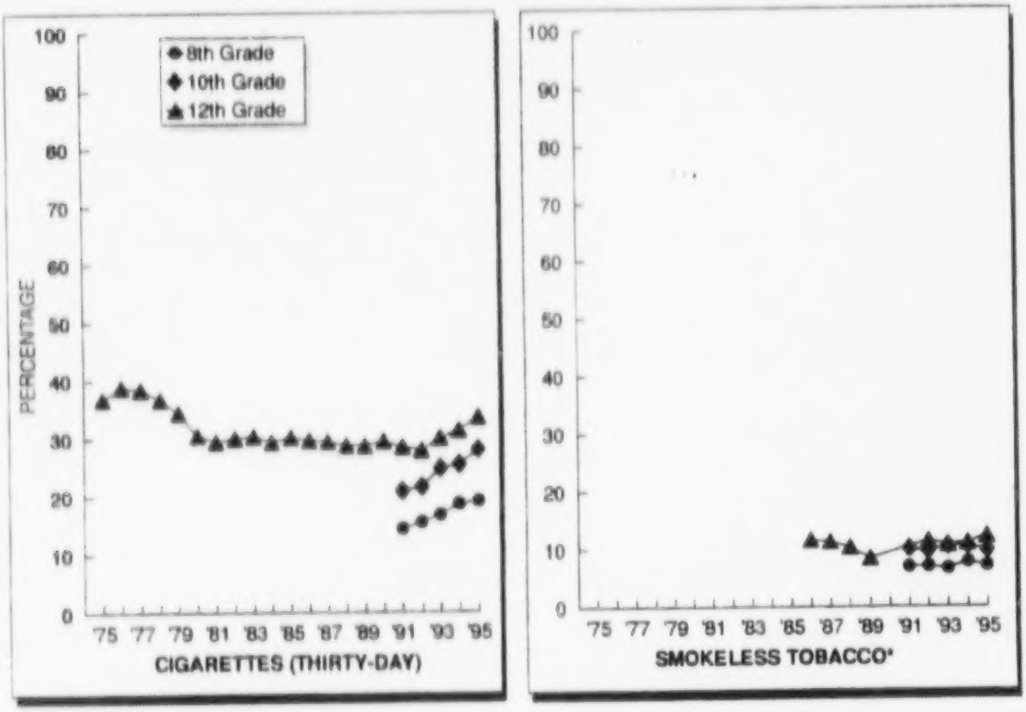
FIGURE 9h

Trends in Thirty-Day Prevalence of Various Drugs for Eighth, Tenth, and Twelfth Graders



*12th graders: Smokeless tobacco data not available in 1990 or 1991.

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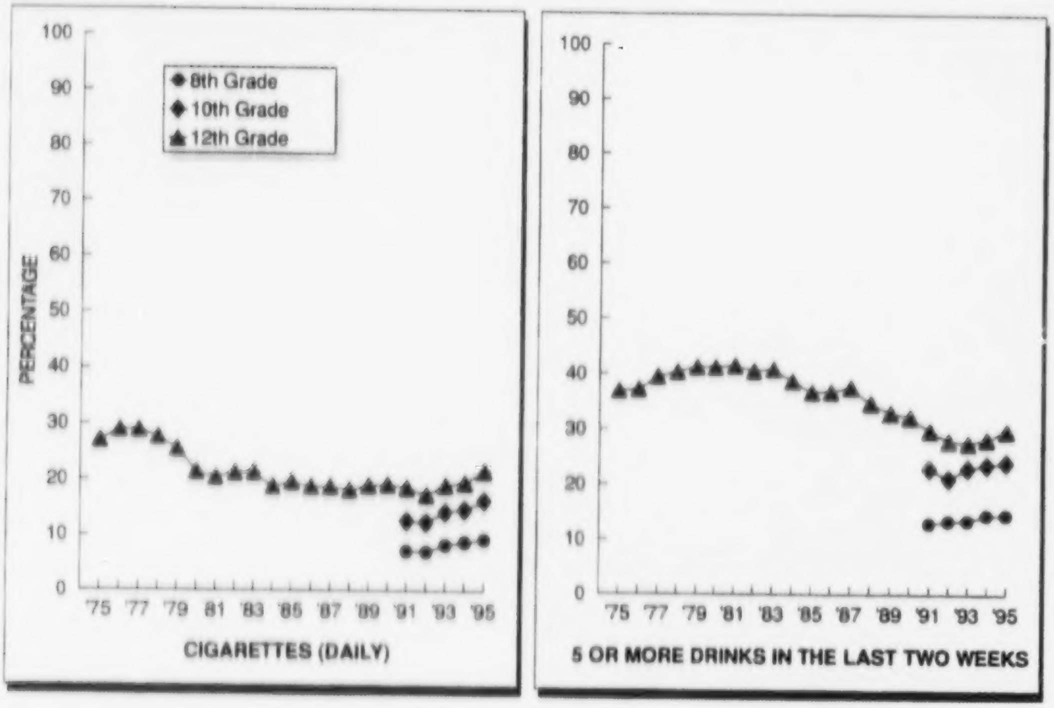
FIGURE 9i

Trends in Thirty-Day Prevalence of Daily Use of Cigarettes, and Two-Week Prevalence of Heavy Drinking for Eighth, Tenth, and Twelfth Graders



cocaine (as well as having used in the past year) more than doubled between 1983 and 1986 from 2.4% to 5.7%. In the same period the proportion of all seniors who said both that they had used cocaine during the prior year and that they had at some time been unable to stop using when they tried to stop, doubled (from 0.4% to 0.8%). In addition, between 1984 and 1986 the proportion of seniors reporting active daily use of cocaine doubled (from 0.2% to 0.4%). We think it likely that the advent of crack use during this period contributed to these statistics.

- In 1987 we introduced questions about crack use into two questionnaire forms using our standard set of three questions which ask separately about frequency of use in lifetime, past 12 months, and past 30 days. These were added subsequently to all questionnaire forms beginning in 1990.

  Between 1986 and 1991, annual ***crack*** prevalence declined from 4.1% to 1.5%, or about 60% over this time period (see Figure 9e). Lifetime prevalence rates were 5.4% in 1987 (the first year this measure was available) and were down by half to a low of 2.6% by 1992. The figures for 30-day prevalence dropped from 1.3% in 1987 to 0.7% in 1990; then for several years rates remained relatively stable, before starting to inch up again in 1994. Since 1993, annual prevalence has risen steadily from 1.5% to 2.1% in 1995.

  It is important to note that ***crack*** use may be disproportionately located in the out-of-school population relative to most other drugs. In general, it would seem likely that the trends there would parallel those seen among high school seniors, who represent the majority of the population the same age, but one could imagine exceptions.

- Like cocaine use, ***inhalant*** use rose steadily, but more slowly, in the late 1970s (see Figure 9b). Annual prevalence (unadjusted) rose from 3.0% in 1976 and peaked at 5.4% in 1979. Starting in 1979 when separate questions were introduced to measure the rising use of nitrite inhalants, an adjustment was introduced into the overall inhalant use measure to correct for the underreporting of nitrite inhalants, which we determined existed. Between 1979 and 1983, there was some overall decline in this adjusted version–in part due to a substantial drop in the use of ***amyl and butyl nitrites,*** for which annual prevalence declined from 6.5% in 1979 to 3.6% in 1983. Both the adjusted and unadjusted measures increased modestly between 1983 and 1986, with annual use for inhalants (adjusted) increasing from 6.2% in 1983 to 8.9% in 1986, and the use of nitrites increasing less, from 3.6% to 4.7%.

  After 1986, there was a steep decline in annual ***nitrite*** use (from 4.7% to 0.5% in 1992) but only a modest decline in overall inhalant use (adjusted), with annual prevalence falling from 8.9% in 1986 to 6.4% in 1992, before then rising again to 8.4% by 1995. The gradual convergence of the unadjusted and adjusted inhalant prevalence rates, seen in Figure 9b, suggests that the number of seniors who use nitrites, but do not report themselves as inhalant users on the general inhalant-use question, has diminished considerably, as would be expected in light of the overall decline in nitrite use.

This unusual pattern of change, where inhalant use unadjusted for nitrites rose sharply over much of the life of the study, while the version adjusted for nitrites stayed fairly level over most of the life of the study (Figure 9b) is worth further consideration. Essentially, ***inhalants other than the nitrites*** have been rising in use, but since 1979 this rise was largely offset or masked in the adjusted inhalants measure by the sharp decline in the use of the nitrites. Over time this class of drug-abusing behavior has become more common. In the class of 1976, when the inhalant questions were first introduced, 10.3% indicated any lifetime use (unadjusted), vs. 17.4% in 1995—a substantial increase. Annual prevalence (unadjusted) more than doubled over the same interval, from 3.0% to 8.0%.

- ***Stimulant*** (amphetamine) use, remained relatively unchanged between 1975 and 1978, then increased in 1979, 1980, and 1981 (Figure 9a). Between 1976 and 1981, reported annual prevalence rose by 10 percentage points (from 16% to 26%); daily use tripled, from 0.4% to 1.2%. As stated earlier, we think these increases were exaggerated–perhaps sharply–by respondents in the 1980 and 1981 surveys in particular including nonamphetamine, over-the-counter diet and stay-awake pills, as well as "look-alike" and "sound-alike" pills in their answers. In 1982, we added new versions of the questions on amphetamine use, which were more explicit in instructing respondents not to include such nonprescription pills. (These were added to only three of the five forms of the questionnaire being used; the amphetamine questions were left unchanged in the other two forms until 1984.) Between 1981 and 1982 prevalence rates dropped slightly as a result of this methodological change. In all tables and figures, data for 1975 through 1981 are based on the unchanged questions, providing comparable data across time for longer-term trend estimates and data for 1982 through 1994 are based on the revised questions, providing our best assessments of current prevalence and recent trends in true amphetamine use.[23]

  In 1982 and 1983, the two years for which both adjusted and unadjusted statistics are available, the unadjusted showed a modest amount of overreporting (see Figure 9a). Both statistics suggest that a downturn in the current use of stimulants began in 1982 and continued for a decade. For example, between 1982 and 1992 the annual prevalence for amphetamines (adjusted) fell by nearly two-thirds from 20% to 7%. Current use and current daily use both fell by more than half. As with a number of other drugs, the trend lines veered upwards after 1992. Annual prevalence rose significantly from 7.1% in 1992 to 8.4% in 1993, and in 1995, 9.3% of the seniors reported some use of amphetamines in the past year.

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[23] We think the unadjusted estimates for the earliest years of the survey were probably little affected by the improper inclusion of nonprescription stimulants, since sales of the latter did not burgeon until after the 1979 data collection.

- In 1990 questions were added about twelfth graders' use of ***ice***, a crystallized form of methamphetamine which can be smoked much like crack. Despite the widespread concern at the time that an epidemic of ice use would develop, it has not made much of an inroad into this population, perhaps because the dangerous reputation of crack rubbed off on it. Annual prevalence held at about 1.3% from 1990, the first measurement point, through 1992: then, use began to rise gradually to 2.4% by 1995.

- The sustained, gradual decline in ***sedative*** use (Figure 9c) between 1975 and 1979 halted in 1980 and 1981. Annual prevalence, which dropped steadily from 11.7% in 1975 to 9.9% in 1979, increased slightly to 10.5% in 1981, perhaps reflecting the inclusion of some "look-alike" pills in the reporting. The longer-term decline resumed again in 1982, and over the next decade annual prevalence fell to 2.9%, a decline of almost three-quarters from the peak level in 1975. After 1992 an increase began in the annual measure, reaching 4.9% by 1995.

  The overall trends for sedatives mask differential trends occurring for the two components of the measure, as illustrated in Figure 9c. ***Barbiturate*** use declined steadily between 1975 and 1987 before leveling. By 1992 annual prevalence (2.8%) was less than one-third of the 1975 level (10.7%). It then rose back to 4.7% by 1995. ***Methaqualone*** use, on the other hand, rose sharply from 1978 until 1981. In fact, it was the only drug other than stimulants that was still rising in 1981. But in 1982, the use of methaqualone also began to decline, accounting for the overall sedative category resuming its decline that year. Annual use increased significantly (to 0.8%) in 1994, where it remained in 1995 (0.7%), but still stands at a small fraction of its peak level observed in 1981 (7.6%). Because of the very low prevalence rates, methaqualone questions were dropped from five of the six questionnaire forms in 1990. Therefore, since 1990 the sedative data are based on the six-form barbiturate data adjusted by the one-form methaqualone data.

- Usage statistics for ***tranquilizers*** (Figure 9b) peaked in 1977, probably following a considerable period of increase, and then showed a long, steady decline through 1992. Lifetime prevalence dropped by two-thirds (from 18% in 1977 to 6% in 1992), annual prevalence by nearly three-fourths (from 11% to 2.8%), and 30-day prevalence by more than three-fourths (from 4.6% to 1.0%). Following significant declines on all three prevalence measures in 1992, all showed an increase in 1993, 1994, and 1995.

- Between 1975 and 1979 the prevalence of ***heroin*** use dropped rather steadily (Figure 9f). Lifetime prevalence dropped by exactly half, from 2.2% in 1975 to 1.1% in 1979, and annual prevalence also dropped by half, from 1.0% in 1975 to 0.5% in 1979. This decline halted in 1979 and the statistics remained almost constant for a decade and a half. In 1994, all prevalence rates remain similar to those in 1979, with very little change in the intervening years. However, in 1995 a sharp (and statistically significant) increase began, with annual and 30-day prevalence rates roughly doubling, to 1.1% and 0.6%, respectively. As was discussed in the previous chapter (see also Table 4b), we believe that the advent of non-injection forms of heroin has played a role in this increase.

- For the first twelve years of the study, the use of ***opiates other than heroin*** remained fairly stable, with annual prevalence fluctuating between 5.1% and 6.4% (see Figure 9f). After 1987 there was a modest, gradual decline in annual prevalence from 5.3% in 1987 to 3.3% in 1992. In 1993 and 1994 there were slight, not statistically significant, increases in use, followed by a significant increase in 1995. Annual prevalence was 4.7% in 1995.

- ***Hallucinogen*** use (unadjusted for underreporting of PCP) declined some in the mid-1970s (Figure 9d) from annual prevalence of 11.2% in 1975 to 9.6% in 1978. This may have been the tail end of a longer period of decline precipitated by rising concerns about the adverse effects of hallucinogens—particularly LSD—and particularly about their possible damage to the brain and to genes. The use of hallucinogens (unadjusted for PCP use) then leveled for several years before beginning another sustained decline. The first hallucinogen figures adjusted for the underreporting of PCP were available in 1979. Between then and 1984 annual prevalence of ***hallucinogens, adjusted*** declined steadily, dropping from 11.8% to 7.3%. The rate remained fairly level through 1986, dropped a little more through 1988, then remained level again through 1992. In 1993 this pattern of irregular declines ended, as annual prevalence rose significantly from 6.2% to 7.8% where it remained in 1994. Annual prevalence again rose significantly in 1995, to 9.7%.

- ***LSD***, one of the major drugs comprising the hallucinogen class, showed a modest decline from 1975 to 1977, followed by considerable stability through 1981 (Figure 9d). Between 1981 and 1985 there was a second period of gradual decline, with annual prevalence falling from 6.5% to 4.4%. However, after 1985 annual prevalence began to rise gradually to 5.6% in 1992. The rate of increase accelerated in 1993 as annual prevalence jumped to 6.8%. The increase continued in 1995, with a significant rise in annual prevalence to 8.4%.

- Prevalence statistics for the specific hallucinogen ***PCP*** showed a very substantial decline after 1979 when the use of this drug was first measured (see Figure 9d). Annual prevalence dropped from 7.0% in the class of 1979 to 2.2% in the class of 1982. After leveling for a few years, it dropped further to reach 1.3% in 1987, which is about where it has remained in the years since. The speed with which this drug fell from popularity strongly suggests that it achieved a reputation as a dangerous drug very quickly.

- As can be seen from these varied patterns of use, the overall proportion of seniors using ***any illicit drugs other than marijuana*** in their lifetime has changed over the years, but the mix of drugs they are using has changed even more. A number of drug classes showed dramatic declines, particularly in the 1980s, some have shown substantial increases, and some have remained fairly stable. Further, the periods in which they either increased or declined varied considerably for the different classes of drugs, although since 1992 the use of a good many drugs has been increasing again.

- Turning to the licit drugs, in the last half of the 1970s there was a small upward shift in the prevalence of ***alcohol*** use among seniors (see Figure 9g). To illustrate, between 1975 and 1979 the annual prevalence rate rose steadily from 85% to 88%, the monthly prevalence rose from 68% to 72%, and the daily prevalence rose from 5.7% to 6.9%. As with marijuana, 1979 was the peak year for annual use. Between 1979 and 1985 these prevalence rates fell. Annual prevalence fell from 88% to 86%, monthly prevalence from 72% to 66%, and daily prevalence from 6.9% to 5.0%. All three rates remained fairly level from about 1985 to 1987; after which they showed some further decline. Thirty-day prevalence, for example, fell from 66% in 1987 to 51% in 1993, down by nearly one-third from its peak level in 1978 (72%). The prevalence of daily use fell from 4.8% to 3.4% between 1987 and 1992, followed by a sharper drop to 2.5% in 1993, down by more than one-half from its peak level in 1979 (6.9%). No further declines were observed in 1994, however, based on a slightly revised set of alcohol usage questions.[24] If anything, there was evidence of some increase in use, though none of the changes reached statistical significance. There was a very slight further increase in use in 1995.

- A similar pattern was observed in the frequency of ***occasional heavy drinking*** (Figure 9i). When asked whether they had taken five or more drinks in a row during the prior two weeks, 37% of the seniors in 1975 said they had. This proportion rose gradually to 41% by 1979, where it remained through 1983. In both 1984 and 1985, we observed drops of 2 percentage points in this troublesome statistic, bringing it to 37%, exactly where it was in 1975. There was no further change in 1986 or 1987. Over the next six years it dropped another 10 percentage points, from 38% in 1987 to 28% in 1993—a one-third drop from its peak level of 41%. Since 1992 it has increased slightly to 30% in 1995.

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[24] A slight revision was introduced in the question wording in three of the six forms in 1993 and in all six forms beginning in 1994. It added the qualifier of "more than just a few sips" to the definition of a drink of an alcoholic beverage. The 1993 data show the extent of correction that resulted; see Tables 11 to 14.

Beginning in 1991, respondents were asked to report how often they had ***been drunk*** in their lifetime, the past 12 months, and the past 30 days. These measures showed declines between 1991 and 1993 followed by increases in 1994 and 1995, as would be expected given the data above (Tables 11-14 and Figure 9g).

- There is no evidence that the 13-year decline in marijuana use observed between 1979 and 1992 led to any concomitant increase in alcohol use, as many observers suggested would happen. In fact, through 1992 there was some parallel decline in annual, monthly, and daily alcohol use as well as in occasional heavy drinking. Earlier, when marijuana use rose in the late 1970s, alcohol use rose along with it; and now that marijuana use is rising again in the 1990s, alcohol use seems to be edging up again. In sum, there is little evidence that the use of either of these drugs tends to displace the use of the other.

- ***Cigarette use*** among seniors peaked in 1976 and 1977, as measured by lifetime, 30-day, and daily prevalence. (Annual prevalence is not asked.) Over the next four years 30-day prevalence dropped substantially, from 38% in the class of 1977 to 29% in the class of 1981. (See Tables 13 and 14 and Figure 9h.) More importantly, ***daily cigarette use*** dropped over that same interval from 29% to 20%, and daily use of half-pack-a-day or more from 19% to 14%. In 1982 and 1983 the decline had clearly halted. The earlier decline resumed briefly in 1984; daily use fell from 21% to 19%, and daily use of half-pack-a-day dropped from 14% to 12%. Between 1984 and 1992 there was very little change: 30-day prevalence fell from 29% to 28%, daily use from 19% to 17%, and half-pack-a-day smoking from 12% to 10%. Despite the general decline in use for most other drugs, despite the restrictive legislation debated and enacted at state and local levels over those years, and despite prevention efforts being made in many school systems, there was a noteworthy lack of any appreciable decline in smoking rates. In fact, by 1993, both the 30-day rate and the current daily smoking rate had risen significantly (by 2.1 percentage points and 1.8 percentage points, respectively), and then rose again in 1994 (though the 1994 change did not reach significance). In 1995 both measures rose significantly, the 30-day rate by 2.3 percentage points and the current daily rate by 2.2 percentage points.

- Questions about the use of ***smokeless tobacco*** (Figure 9h), which includes chewing tobacco and snuff, were first introduced in 1986. They were omitted in 1990 and 1991, then reintroduced in 1992. Results show a high rate of use for the sample overall, particularly for males, who account for nearly all of the use. In 1995 about one-third of all seniors had tried smokeless tobacco and 3.6% were current daily users. The trends for the period 1986 to 1989 showed a decline in use, with

30-day prevalence falling steadily from 11.5% to 8.4%. When the questions were reintroduced in 1992, the rate (11.4%) almost matched the 1986 level. Use rose to 12.2% in 1995. Because these questions are in a single questionnaire form, estimates are based on smaller samples than for most other drugs; it is possible to conclude that the usage level since 1986 has really been fairly flat, with random fluctuations in samples accounting for the apparent changes.

- Trend data on ***steroid*** use are available since 1989 (Figure 9f). Annual prevalence declined gradually, but steadily, from 1.9% in 1989 to 1.1% in 1992. It then began to rise again, reaching 1.5% in 1995.

TRENDS IN PREVALENCE 1991-1995: EIGHTH AND TENTH GRADERS

To facilitate cross-grade comparisons, trend data for all three grades (eighth, tenth, and twelfth) are included in Figures 9a-9i and in Table 15. (Table 1 in "Overview of Key Findings augments Table 15 with data from college students and young adults.)

- Over the past four years, the eighth, tenth, and twelfth grade trends in the use of illicit drugs have moved in parallel, and all have shown increases in their use of a number of drugs.

- ***Marijuana use*** (Figure 9a) has been rising sharply among eighth graders, with annual prevalence more than doubling between 1991 and 1995, from 6.2% to 15.8%. Starting a year later, use rose significantly among tenth and twelfth graders, as well. Between 1992 and 1995 annual prevalence rose from 15.2% to 28.7% among tenth graders and from 21.9% to 34.7% among the twelfth graders. There also were significant increases in lifetime, 30-day, and daily marijuana use at most grade levels (see Table 15). It should be noted that this turnaround was observed first among the youngest students and that the proportional increase has been greatest among them.

- Annual ***hallucinogen*** use (Figure 9d) already had begun rising in all three grade levels by 1992, and a significant increase occurred in 1995 for all three grades. The two components of the hallucinogens class, ***LSD*** and ***hallucinogens other than LSD***, have generally followed this pattern. Note that LSD currently accounts for most of the hallucinogen use at all grade levels.

- The increase in ***LSD*** use (Figure 9d) is of particular interest because it was one of the first drugs to decline in the long-term epidemic, almost surely due to growing concerns in the early to mid-1970s about its dangers. This more recent increase may reflect the effects of "generational forgetting," that is, replacement cohorts do not have as much concern about its dangers as their predecessors because they did

TABLE 15
Trends in Prevalence of Various Drugs for Eighth, Tenth, and Twelfth Grade Students

(Entries are percentages)

	Lifetime						Annual						30-Day						Daily					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Marijuana/Hashish																								
8th Grade	10.2	11.2	12.6	16.7	19.9	+3.2sss	6.2	7.2	9.2	13.0	15.8	+2.8sss	3.2	3.7	5.1	7.8	9.1	+1.3s	0.2	0.2	0.4	0.7	0.8	+0.1
10th Grade	23.4	21.4	24.4	30.4	34.1	+3.7ss	16.5	15.2	19.2	25.2	28.7	+3.5sss	8.7	8.1	10.9	15.8	17.2	+1.4	0.8	0.8	1.0	2.2	2.8	+0.6ss
12th Grade	36.7	32.6	35.3	38.2	41.7	+3.5s	23.9	21.9	26.0	30.7	34.7	+4.0ss	13.8	11.9	15.5	19.0	21.2	+2.2s	2.0	1.9	2.4	3.6	4.6	+1.0ss
Inhalants[a,b]																								
8th Grade	17.6	17.4	19.4	19.9	21.6	+1.7s	9.0	9.5	11.0	11.7	12.8	+1.1	4.4	4.7	5.4	5.6	6.1	+0.5	0.2	0.3	0.3	0.2	0.2	0.0
10th Grade	15.7	16.6	17.5	18.0	19.0	+1.0	7.1	7.5	8.4	9.1	9.6	+0.5	2.7	2.7	3.3	3.6	3.5	-0.1	0.1	0.1	0.2	0.1	0.1	0.0
12th Grade	17.6	16.6	17.4	17.7	17.4	-0.3	6.6	6.2	7.0	7.7	8.0	+0.3	2.4	2.3	2.5	2.7	3.2	+0.5	0.2	0.1	0.1	0.1	0.1	+0.1
Hallucinogens[b]																								
8th Grade	3.2	3.8	3.9	4.3	5.2	+0.9	1.9	2.5	2.6	2.7	3.6	+0.9s	0.8	1.1	1.2	1.3	1.7	+0.4	0.1	0.1	0.1	0.1	0.1	+0.1
10th Grade	6.1	6.4	6.8	8.1	9.3	+1.2	4.0	4.3	4.7	5.8	7.2	+1.4ss	1.6	1.8	1.9	2.4	3.3	+0.9ss	*	0.1	0.1	0.1	*	0.0
12th Grade	9.6	9.2	10.9	11.4	12.7	+1.3	5.8	5.9	7.4	7.6	9.3	+1.7ss	2.2	2.1	2.7	3.1	4.4	+1.3sss	0.1	0.1	0.1	0.1	0.1	0.0
LSD																								
8th Grade	2.7	3.2	3.5	3.7	4.4	+0.7	1.7	2.1	2.3	2.4	3.2	+0.8s	0.6	0.9	1.0	1.1	1.4	+0.3	*	*	*	*	0.1	0.0
10th Grade	5.6	5.8	6.2	7.2	8.4	+1.2	3.7	4.0	4.2	5.2	6.5	+1.3ss	1.5	1.6	1.6	2.0	3.0	+1.0sss	*	0.1	*	*	*	0.0
12th Grade	8.8	8.6	10.3	10.5	11.7	+1.2	5.2	5.6	6.8	6.9	8.4	+1.5ss	1.9	2.0	2.4	2.6	4.0	+1.4sss	0.1	0.1	0.1	0.1	0.1	0.0
Hallucinogens Other than LSD																								
8th Grade	1.4	1.7	1.7	2.2	2.5	+0.3	0.7	1.1	1.0	1.3	1.7	+0.4s	0.3	0.4	0.5	0.7	0.8	+0.1	*	*	*	*	*	0.0
10th Grade	2.2	2.5	2.8	3.8	3.9	+0.1	1.3	1.4	1.9	2.4	2.8	+0.4	0.4	0.5	0.7	1.0	1.0	0.0	*	*	*	*	*	0.0
12th Grade	3.7	3.3	3.9	4.9	5.4	+0.5	2.0	1.7	2.2	3.1	3.8	+0.7s	0.7	0.5	0.8	1.2	1.3	+0.1	*	*	*	*	0.1	+0.1
Cocaine																								
8th Grade	2.3	2.9	2.9	3.6	4.2	+0.6	1.1	1.5	1.7	2.1	2.6	+0.5	0.5	0.7	0.7	1.0	1.2	+0.2	0.1	*	0.1	0.1	0.1	0.0
10th Grade	4.1	3.3	3.6	4.3	5.0	+0.7	2.2	1.9	2.1	2.8	3.5	+0.7	0.7	0.7	0.9	1.2	1.7	+0.5s	0.1	*	0.1	0.1	0.1	0.0
12th Grade	7.8	6.1	6.1	5.9	6.0	+0.1	3.5	3.1	3.3	3.6	4.0	+0.4	1.4	1.3	1.3	1.5	1.8	+0.3	0.1	0.1	0.1	0.1	0.2	+0.1
Crack																								
8th Grade	1.3	1.6	1.7	2.4	2.7	+0.3	0.7	0.9	1.0	1.3	1.6	+0.3s	0.3	0.5	0.4	0.7	0.7	0.0	*	*	0.1	*	*	0.0
10th Grade	1.7	1.5	1.8	2.1	2.8	+0.7ss	0.9	0.9	1.1	1.4	1.8	+0.4s	0.3	0.4	0.5	0.6	0.9	+0.3ss	*	*	*	*	*	0.0
12th Grade	3.1	2.6	2.6	3.0	3.0	0.0	1.5	1.5	1.5	1.9	2.1	+0.2	0.7	0.6	0.7	0.8	1.0	+0.2	0.1	0.1	0.1	0.1	0.1	0.0
Other Cocaine[c]																								
8th Grade	2.0	2.4	2.4	3.0	3.4	+0.4	1.0	1.2	1.3	1.7	2.1	+0.4	0.5	0.5	0.6	0.9	1.0	+0.1	*	*	*	*	*	0.0
10th Grade	3.8	3.0	3.3	3.8	4.4	+0.6	2.1	1.7	1.8	2.4	3.0	+0.6	0.6	0.6	0.7	1.0	1.4	+0.4s	*	*	*	*	*	0.0
12th Grade	7.0	5.3	5.4	5.2	5.1	-0.1	3.2	2.6	2.9	3.0	3.4	+0.4	1.2	1.0	1.2	1.3	1.3	0.0	0.1	*	0.1	0.1	0.1	+0.1
Heroin[d]																								
8th Grade	1.2	1.4	1.4	2.0	2.3	+0.3	0.7	0.7	0.7	1.2	1.4	+0.2	0.3	0.4	0.4	0.6	0.6	0.0	*	*	*	0.1	*	0.0
10th Grade	1.2	1.2	1.3	1.5	1.7	+0.2	0.5	0.6	0.7	0.9	1.1	+0.2	0.2	0.2	0.3	0.4	0.6	+0.2s	*	*	*	*	*	0.0
12th Grade	0.9	1.2	1.1	1.2	1.6	+0.4s	0.4	0.6	0.5	0.6	1.1	+0.5sss	0.2	0.3	0.2	0.3	0.6	+0.3sss	*	*	*	*	0.1	0.0
Stimulants[e]																								
8th Grade	10.5	10.8	11.8	12.3	13.1	+0.8	6.2	6.5	7.2	7.9	8.7	+0.8	2.6	3.3	3.6	3.6	4.2	+0.6s	0.1	0.1	0.1	0.1	0.2	0.0
10th Grade	13.2	13.1	14.9	15.1	17.4	+2.3ss	8.2	8.2	9.6	10.2	11.9	+1.7ss	3.3	3.6	4.3	4.5	5.3	+0.8s	0.1	0.1	0.3	0.1	0.2	+0.1
12th Grade	15.4	13.9	15.1	15.7	15.3	-0.4	8.2	7.1	8.4	9.4	9.3	-0.1	3.2	2.8	3.7	4.0	4.0	0.0	0.2	0.2	0.2	0.2	0.3	+0.1
Tranquilizers[e]																								
8th Grade	3.8	4.1	4.4	4.6	4.5	-0.1	1.8	2.0	2.1	2.4	2.7	+0.3	0.8	0.8	0.9	1.1	1.2	+0.1	*	*	0.1	0.1	*	0.0
10th Grade	5.8	5.9	5.7	5.4	6.0	+0.6	3.2	3.5	3.3	3.3	4.0	+0.7s	1.2	1.5	1.1	1.5	1.7	+0.2	*	*	*	*	0.1	0.0
12th Grade	7.2	6.0	6.4	6.6	7.1	+0.5	3.6	2.8	3.5	3.7	4.4	+0.7s	1.4	1.0	1.2	1.4	1.8	+0.4s	0.1	*	*	0.1	*	0.0

SOURCE: The Monitoring the Future Study, the University of Michigan

(Table continued on next page)

TABLE 15 (continued)

Trends in Prevalence of Various Drugs for Eighth, Tenth, and Twelfth Grade Students

(Entries are percentages)

	Lifetime						Annual						30 Day						Daily					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Alcohol[f]																								
Any use																								
8th Grade	70.1	69.3	67.1	—	—	—	54.0	53.7	51.6	—	—	—	25.1	26.1	26.2	—	—	—	0.5	0.6	0.8	—	—	—
			55.7	55.8	54.5	-1.3			45.4	46.8	45.3	-1.5			24.3	25.5	24.6	-0.9			1.0	1.0	0.7	-0.3s
10th Grade	83.8	82.3	80.8	—	—	—	72.3	70.2	69.3	—	—	—	42.8	39.9	41.5	—	—	—	1.3	1.2	1.6	—	—	—
			71.6	71.1	70.5	-0.6			63.4	63.9	63.5	-0.4			38.2	39.2	38.8	-0.4			1.8	1.7	1.7	0.0
12th Grade	88.0	87.5	87.0	—	—	—	77.7	76.8	76.0	—	—	—	54.0	51.3	51.0	—	—	—	3.6	3.4	2.5	—	—	—
			80.0	80.4	80.7	+0.3			72.7	73.0	73.7	+0.7			48.6	50.1	51.3	+1.2			3.4	2.9	3.5	+0.6ss
5+ drinks in last 2 weeks																								
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.9	13.4	13.5	14.5	14.5	0.0
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22.9	21.1	23.0	23.6	24.0	+0.4
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29.8	27.9	27.5	28.2	29.8	+1.6
Been drunk[g]																								
8th Grade	26.7	26.8	26.4	25.9	25.3	-0.6	17.5	18.3	18.2	18.2	18.4	+0.2	7.6	7.5	7.8	8.7	8.3	-0.4	0.1	0.1	0.2	0.3	0.2	0.0
10th Grade	50.0	47.7	47.9	47.2	46.9	-0.3	40.1	37.0	37.8	38.0	38.5	+0.5	20.5	18.1	19.8	20.3	20.8	+0.5	0.2	0.3	0.4	0.4	0.6	+0.2s
12th Grade	65.4	63.4	62.5	62.9	63.2	+0.3	52.7	50.3	49.6	51.7	52.5	+0.8	31.6	29.9	28.9	30.8	33.2	+2.4	0.9	0.8	0.9	1.2	1.3	+0.1
Cigarettes																								
Any use																								
8th Grade	44.0	45.2	45.3	46.1	46.4	+0.3	—	—	—	—	—	—	14.3	15.5	16.7	18.6	19.1	+0.5	7.2	7.0	8.3	8.8	9.3	+0.5
10th Grade	55.1	53.5	56.3	56.9	57.6	+0.7	—	—	—	—	—	—	20.8	21.5	24.7	25.4	27.9	+2.5ss	12.6	12.3	14.2	14.6	16.3	+1.7s
12th Grade	63.1	61.8	61.9	62.0	64.2	+2.2s	—	—	—	—	—	—	28.3	27.8	29.9	31.2	33.5	+2.3s	18.5	17.2	19.0	19.4	21.6	+2.2s
1/2 pack+/day																								
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.1	2.9	3.5	3.6	3.4	-0.2
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.5	6.0	7.0	7.6	8.3	+0.7
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.7	10.0	10.9	11.2	12.4	+1.2
Smokeless Tobacco[h]																								
8th Grade	22.2	20.7	18.7	19.9	20.0	+0.1	—	—	—	—	—	—	6.9	7.0	6.6	7.7	7.1	-0.6	1.6	1.8	1.5	1.9	1.2	-0.7
10th Grade	28.2	26.6	28.1	29.2	27.6	-1.6	—	—	—	—	—	—	10.0	9.6	10.4	10.5	9.7	-0.8	3.3	3.0	3.3	3.0	2.7	-0.3
12th Grade	—	32.4	31.0	30.7	30.9	+0.2	—	—	—	—	—	—	—	11.4	10.7	11.1	12.2	+1.1	—	4.3	3.3	3.9	3.6	-0.4
Steroids[e]																								
8th Grade	1.9	1.7	1.6	2.0	2.0	0.0	1.0	1.1	0.9	1.2	1.0	-0.2	0.4	0.5	0.5	0.5	0.6	+0.1	*	*	0.1	*	*	0.0
10th Grade	1.8	1.7	1.7	1.8	2.0	+0.2	1.1	1.1	1.0	1.1	1.2	+0.1	0.6	0.6	0.5	0.6	0.6	0.0	0.1	*	*	0.1	0.1	0.0
12th Grade	2.1	2.1	2.0	2.4	2.3	-0.1	1.4	1.1	1.2	1.3	1.5	+0.2	0.8	0.6	0.7	0.9	0.7	-0.2	0.1	0.1	0.1	0.4	0.2	-0.2

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available. '*' indicates less than .05 percent. Any apparent inconsistency between the change estimate and the prevalence estimates for the recent classes is due to rounding error.

Approx. N: 8th Grade = 17,500 in 1991; 18,600 in 1992; 18,300 in 1993; 17,300 in 1994; 17,500 in 1995
10th Grade = 14,800 in 1991; 14,800 in 1992; 15,300 in 1993; 15,800 in 1994; 17,000 in 1995
12th Grade = 15,000 in 1991; 15,800 in 1992; 16,300 in 1993; 15,400 in 1994; 15,400 in 1995

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] 12th grade only: Data based on five forms. N is five-sixths of N indicated.
[b] 12th grade only: Unadjusted for underreporting of certain drugs. See text for details.
[c] 12th grade only: Data based on four forms. N is four-sixths of N indicated.
[d] In 1995, the heroin question was changed in half of the forms. Separate questions were asked for use with injection and without injection. Data presented here represent the combined data from all forms.
[e] 12th grade only: Only drug use which was not under a doctor's orders is included here.
[f] In 1993, the question text was changed slightly in some forms to indicate that a 'drink' meant 'more than a few sips.' The data in the upper line for alcohol came from forms using the old wording, while the data in the lower line came from forms using the revised wording. For 1993 only: Data based on one of two forms for 8th and 10th grades and on three of six forms for 12th grade. N is one-half of N indicated. In 1994-95, data were based on all forms for all grades.
[g] 12th grade only: Data based on two forms. N is two-sixths of N indicated.
[h] Data based on one form. N is one-half of N indicated for 8th and 10th grades, and N is one-sixth of N indicated for 12th grade.

not have comparable opportunities for direct and vicarious learning about the consequences of using the drug.[25]

- ***Crack*** use (Figure 9e) began to rise among eighth graders after 1991, among tenth graders after 1992, and among twelfth graders after 1993. The annual prevalence rate has doubled among eighth graders (from 0.7% in 1991 to 1.6% in 1995) and tenth graders (from 0.9% in 1992 to 1.8% in 1995), and has risen by more than a quarter among twelfth graders (from 1.5% in 1993 to 2.1% in 1995).

- In 1995 annual use among eighth and tenth graders increased significantly for ***crack***. Thirty-day ***cocaine, crack,*** and ***other cocaine*** use also increased significantly for tenth graders. These increases combined with the findings on attitudes and peer norms provide the basis for some concern about the future.

- ***Stimulants*** (Figure 9a) also have increased at all three grade levels, reaching annual prevalence rates of 8.7% for eighth graders (vs. 6.2% in 1991), 11.9% for tenth graders (vs. 8.2% in 1992), and 9.3% for twelfth graders (vs. 7.1% in 1992). Like several other drugs, the rise in stimulant use appears to have begun a year earlier (in 1991) among the eighth graders than among the tenth and twelfth graders.

- Since 1991 ***inhalant*** use (Figure 9b) has risen by more than a third among eighth and tenth graders, with annual prevalence reaching 12.8% and 9.6%, respectively. Among twelfth graders use rose from 6.2% to 8.0% between 1992 and 1995.

- ***Tranquilizer*** use has shown a very gradual increase in use at all three grade levels over the past few years. (See Table 15 or Figure 9b.)

- There was little systematic change in ***heroin*** use between 1991 and 1993 at any grade level. Since 1993 all three grades have shown some steady increase. In 1994 heroin use rose significantly among eighth graders, and it rose significantly in 1995 among twelfth graders. (See Figure 9f.)

- From 1991 to 1993, the lifetime, annual, and 30-day prevalence measures for ***alcohol*** (Figure 9g) showed some decline in all three grades (except for 30-day use among eighth graders). Since 1993 there has been little change in these figures except for a modest increase in 30-day drinking among twelfth graders.

  Occasional heavy drinking (Figure 9i) has risen gradually among eighth graders since 1991, among tenth graders since 1992, and among twelfth graders since 1993. Self-reported ***drunkenness*** (Figure 9g) shows a fairly similar pattern. None of these changes are greater than 3.3 percentage points.

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[25] See Johnston, L.D. (1991). Toward a theory of drug epidemics. *In* R.L. Donohew, H. Sypher, & W. Bukoski (Eds.), *Persuasive communication and drug abuse prevention* (pp. 93-132). Hillsdale, NJ: Lawrence Erlbaum.

- ***Cigarettes*** generally can be expected to move less synchronously across the three grade levels because changes are usually the result of cohort effects rather than secular trends. However, smoking began to rise among eighth and tenth graders after 1991 and twelfth graders after 1992, and since then use has been moving steadily upward in all three grades (see Figures 9h and 9i). Because of this parallel movement, we are inclined to look for some historical correlates. One possibility is that cigarette prices dropped on average because of increased price competition among brands. Another possibility is that cigarette advertising and promotion has grown and/or become more effective at reaching youth. Still a third is that the portrayal of smoking has increased in the entertainment media. Whatever the cause, the rise in smoking seems to be reaching young people across the spectrum, as will be discussed below, so we infer that it must result from culture-wide influences of the type just mentioned.

- There has been little systematic change in the use of ***smokeless tobacco*** (Figure 9h) since 1991.

- ***Steroid*** use (Figure 9f) showed little change in any grade level between 1991 and 1995.

TRENDS IN NONCONTINUATION RATES: TWELFTH GRADERS

Table 16a shows how the user noncontinuation rates observed for the various classes of drugs have changed over time among twelfth graders. (No such calculations have yet been made for the lower grades.) The noncontinuation rate is defined here as the percentage of those who ever used the drug but did not use in the twelve months prior to the survey.

- ***Marijuana*** showed some increase in the noncontinuation rates between 1979 (16%) and 1984 (27%). This increase gave rise to the greater drop in the annual use figure than in lifetime use, which is only influenced by changes in the initiation rate. Between 1984 and 1987 there was no further increase, followed by a rise to 35% in 1991. After 1991 the noncontinuation rate fell sharply to 17% by 1995, which helps to explain the sharp turnaround in the annual and 30-day prevalence rates.

- The noncontinuation rate for ***cocaine*** decreased from 38% in 1976 to 22% in 1979, corresponding to the period of increase in the overall prevalence of use. It then remained fairly stable through 1986, corresponding to a period of stability in the actual prevalence statistics. After 1986, use fell substantially, reflecting in part the considerable

TABLE 16a
Trends in Noncontinuation Rates
Twelfth Graders Who Ever Used Drug in Lifetime

Percent who did not use in last twelve months

	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995
Marijuana/Hashish	15.4	15.7	15.6	15.2	15.9	19.1	22.5	24.5	25.8	27.1	25.1	23.8	27.7	29.9	32.3	33.7	34.9	32.8	26.3	19.6	16.8
Inhalants	—	70.9	66.7	65.8	57.5	61.3	66.7	64.8	68.4	64.6	63.0	61.6	59.4	61.1	66.5	61.7	62.5	62.7	59.8	56.5	54.0
Inhalants, Adjusted	—	—	—	—	50.8	55.7	65.5	63.3	64.4	58.4	59.8	55.7	56.5	59.4	62.9	59.5	61.7	62.4	58.2	55.2	52.8
Amyl/Butyl Nitrites	—	—	—	—	41.4	48.6	63.4	63.3	57.1	60.6	49.4	45.3	44.7	46.9	48.5	33.3	43.7	66.7	35.7	35.3	26.7
Hallucinogens	31.3	37.7	36.7	32.9	29.8	30.1	32.3	35.2	38.7	39.3	38.8	38.1	37.9	38.2	40.4	37.2	39.6	35.9	32.1	33.3	26.8
Hallucinogens, Adjusted	—	—	—	—	31.2	32.5	35.7	38.6	36.7	40.6	36.9	36.1	36.8	37.0	37.4	38.1	39.0	34.0	31.0	33.3	26.0
LSD	36.3	41.8	43.9	35.1	30.5	30.1	33.7	36.5	39.3	41.3	41.3	37.5	38.1	37.7	41.0	37.9	40.9	34.9	34.0	34.3	28.2
PCP	—	—	—	—	45.3	54.2	59.0	63.3	53.6	54.0	40.8	50.0	56.7	58.6	38.5	57.1	51.7	41.7	51.7	42.9	33.3
Cocaine	37.8	38.1	33.3	30.2	22.1	21.7	24.8	28.1	29.6	28.0	24.3	24.9	32.2	34.7	36.9	43.6	55.1	49.2	45.9	39.0	33.3
Crack	—	—	—	—	—	—	—	—	—	—	—	—	27.8	35.4	34.0	45.7	51.6	42.3	42.3	36.7	30.0
Other Cocaine	—	—	—	—	—	—	—	—	—	—	—	—	30.0	38.8	38.8	46.5	54.3	50.9	46.3	42.3	33.3
Heroin	54.5	55.6	55.6	50.0	54.5	54.5	54.5	50.0	50.0	61.5	50.0	54.5	58.3	54.5	53.8	61.5	55.6	50.0	54.5	50.0	31.3
Other Opiates	36.7	40.6	37.9	39.4	38.6	35.7	41.6	44.8	45.7	46.4	42.2	42.2	42.4	46.5	47.0	45.8	47.0	45.9	43.8	42.4	34.7
Stimulants	27.4	30.1	29.1	25.3	24.4	21.2	19.3	27.2	33.5	36.6	39.7	42.7	43.5	44.9	43.5	48.0	46.8	48.9	44.4	40.1	39.2
Crystal Meth (Ice)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	51.9	57.6	55.2	45.2	47.1	38.5
Sedatives	36.7	39.5	37.9	38.1	32.2	30.9	34.4	40.1	45.1	50.4	50.8	50.0	52.9	52.6	50.0	—	—	—	—	—	—
Barbiturates	36.7	40.7	40.4	40.9	36.4	38.2	41.6	46.6	47.5	50.5	50.0	50.0	51.4	52.2	49.2	50.0	45.2	49.1	46.0	41.4	36.5
Methaqualone	37.0	39.7	38.8	38.0	28.9	24.2	28.3	36.4	46.5	54.2	58.2	59.6	62.5	60.6	51.9	69.6	61.5	62.5	75.0	42.9	41.7
Tranquilizers	37.6	38.7	40.0	41.8	41.1	42.8	45.6	50.0	48.1	50.8	48.7	46.8	49.5	48.9	50.0	51.4	50.0	53.3	45.3	43.9	38.0
Alcohol[a]	6.2	6.7	6.0	5.8	5.3	5.7	6.0	6.5	6.7	7.1	7.2	7.4	7.0	7.3	8.8	9.9	11.7	12.2	12.6 9.1	— 9.2	— 8.7
Been Drunk	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.4	20.7	20.6	17.8	16.9
Cigarettes[b]	16.0	16.7	16.2	17.9	19.6	21.4	20.8	19.1	18.6	18.5	15.9	17.0	17.1	18.2	18.5	18.2	17.4	18.6	16.9	15.9	14.6
Smokeless Tobacco[b]	—	—	—	—	—	—	—	—	—	—	—	21.8	18.4	25.7	26.2	—	—	29.6	35.5	33.1	26.5
Steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.7	41.4	33.3	47.6	40.0	45.8	34.8

NOTE: "—" indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] In 1993, the question text was changed slightly in three forms to indicate that a "drink" meant "more than a few sips." The data in the upper line for alcohol came from forms using the original wording, while the data in the lower line came from forms using the revised wording. In 1993, each line of data was based on three of six questionnaire forms. After 1993, data were based on all six questionnaire forms.

[b] Percentage of regular users (ever) who did not use at all in the last thirty days.

increase in the rate of noncontinuation–from 25% in 1986 to 55% in 1991. Since 1991 the noncontinuation rate has been declining fairly rapidly, reaching 33% in 1995.

- For ***crack***, statistics exist only since 1987, but they also show a sharp rise in noncontinuation as prevalence rates declined, from 28% in 1987 to 52% in 1991. Since then, the noncontinuation rate has fallen to 30% by 1995.

- Noncontinuation of ***stimulant*** use rose between 1982 (27%) and 1992 (49%). (Earlier data, based on the unrevised questions, suggest that the change began after 1981.) Since 1992 noncontinuation has fallen to 39%.

- Much of the recent decline in ***sedative*** use is also accounted for by a changing rate of noncontinuation for the specific substances involved. For example, in the case of ***barbiturates*** the noncontinuation rate rose from 36% in 1979 to 52% in 1988, then declined to 37% by 1995. Similarly in 1980, 24% of the seniors who ever used ***methaqualone*** did not use in the prior year, but by 1993 that figure was up to 75%. By 1995 the figure fell to 42%, but these rates are now based on the very few users who answer one of the six questionnaire forms.

- ***Tranquilizer*** users showed a steady, gradual increase in their noncontinuation rates between 1975 and 1982, from 38% to 50%. Then until 1992, there was little further systematic change. Since 1992, though, there has been a decline, from 53% in 1992 to 38% in 1995.

- For ***LSD*** the noncontinuation rate has fluctuated within a rather narrow range (between 34% and 41%) between 1981 and 1994, without any clear trending. In 1995, though, the noncontinuation rate dropped to 28%.

- ***Steroid*** use had an increase in noncontinuation (to 48%) in 1992, a year in which there was an increase in the perceived dangers of using steroids, but the rate has dropped back some since to 35% in 1995.

- Although ***alcohol*** has always had an extremely low rate of noncontinuation, that rate has been increasing gradually in recent years, perhaps reflecting the changed norms regarding its use (see Chapter 8) which in turn may reflect the impact of changing the drinking age laws in a number of states. There has been little further change since 1992, however.

- Table 16b provides noncontinuation rates for seniors who were more established users—that is, for those who reported having used the drug ten or more times in their life. It shows that noncontinuation is far less likely among such heavier users than among all users of a given drug. Further, while the trends in noncontinuation mentioned above

TABLE 16b
Trends in Noncontinuation Rates Among Twelfth Graders Who Used Drug Ten or More Times in Lifetime

	Percent who did not use in last twelve months																				
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995
Marijuana/Hashish	4.0	4.0	4.1	3.7	4.6	5.4	7.2	7.6	8.3	8.8	7.8	7.9	9.2	9.9	10.6	12.3	10.5	10.9	7.8	6.0	4.7
Inhalants	—	48.9	42.6	34.6	23.8	25.2	23.8	27.2	23.1	23.4	25.8	15.3	21.1	21.5	25.9	24.0	23.7	28.6	21.8	26.4	21.6
Nitrites[a]																					
Hallucinogens	10.8	16.1	15.2	10.8	8.1	8.4	7.7	7.5	13.0	14.1	12.2	11.1	11.9	16.6	21.8	16.5	17.4	11.5	12.1	14.3	10.6
LSD	15.2	17.3	18.0	12.2	7.4	6.4	7.1	7.5	15.3	12.1	12.6	12.2	11.5	16.0	21.2	16.0	18.5	11.4	11.9	15.3	11.5
PCP[c]																					
Cocaine	7.7	8.2	6.2	3.8	3.1	3.1	3.1	2.9	6.2	3.1	2.5	3.5	7.6	11.4	11.3	19.6	25.3	20.2	14.1	22.9	9.6
Crack[b]	—	—	—	—	—	—	—	—	—	—	—	—	13.4	2.1	5.2	26.2	31.1	15.3	16.4	16.8	6.3
Other Cocaine	—	—	—	—	—	—	—	—	—	—	—	—	10.2	6.1	16.2	18.5	24.3	23.2	14.7	24.1	15.5
Heroin[a]																					
Other Opiates	9.6	11.6	9.7	9.9	8.7	10.8	10.1	13.5	16.4	15.4	12.2	13.8	15.6	19.3	15.2	15.9	16.1	16.8	16.7	16.8	12.6
Stimulants	8.0	9.8	7.6	7.4	6.1	4.1	4.4	8.4	10.7	12.7	17.5	17.6	17.5	16.0	17.4	18.1	17.2	19.8	13.5	13.8	11.9
Crystal Meth (Ice)[a]																					
Sedatives[c]	13.6	16.2	12.4	12.8	8.6	10.5	7.6	8.6	16.4	20.8	23.6	19.7	23.1	25.2	17.3	—	—	—	—	—	—
Barbiturates	13.4	16.5	12.9	13.5	11.2	11.7	8.9	12.6	17.7	22.8	20.6	19.7	20.7	23.4	18.0	19.8	19.7	23.4	11.0	14.9	10.9
Methaqualone[c]	13.5	15.9	11.9	13.1	6.1	6.0	4.9	8.0	16.3	23.3	26.7	24.9	32.2	29.8	18.6	—	—	—	—	—	—
Tranquilizers	12.0	13.0	11.1	14.4	14.1	14.3	16.3	16.0	14.8	18.8	19.2	15.0	17.1	15.8	11.7	19.3	13.1	21.0	6.7	13.8	6.2
Alcohol[d]	0.6	0.8	0.6	0.9	0.7	0.8	1.0	0.9	0.9	1.1	1.2	1.0	1.1	1.2	1.5	1.9	1.9	2.3	2.3 2.5	— 2.1	— 2.0
Been Drunk	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.3	4.1	4.6	3.3	2.8
Steroids[a]																					

NOTE "—" indicates data not available.
SOURCE The Monitoring the Future Study, the University of Michigan.

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[a] The cell entries in these rows were omitted because they were based on fewer than 50 seniors who used ten or more times. All other cells contain more than 50 cases.

[b] Based on 85 cases in 1987, 54 cases in 1988, and 56 cases in 1989. Crack was included in all six questionnaire forms in 1990-1994.

[c] Based on too few cases in 1990-1994, because this question was asked in only one of the six questionnaire forms.

[d] In 1993, the question text was changed slightly in three forms to indicate that a "drink" meant "more than a few sips." The data in the upper line for alcohol came from forms using the original wording, while the data in the lower line came from forms using the revised wording. In 1993, each line of data was based on three of six questionnaire forms. In 1994, data were based on all six questionnaire forms.

generally have been similar to trends observed in the noncontinuation rates for heavier users of those same drugs, the percentage fluctuations have tended to be considerably smaller among the heavier users.

The reader is cautioned that the number of cases in each cell in Table 16b is considerably smaller than in most other tables—particularly when overall usage rates are low to start with; therefore the trend data are much more uneven.

- Noncontinuation rates for experienced users of ***inhalants*** actually dropped in the late 1970s, perhaps as a result of the nitrites—which are used at older ages than most of the other inhalants—coming onto the scene. However, when the nitrites left the scene during the 1980s, the noncontinuation rates for experienced users failed to increase.
- Note the sharp rise in the late 1980s in the noncontinuation rates for ***cocaine*** and ***crack***, even among these more experienced users. The noncontinuation rates peaked by 1991, before falling back as the use of these drugs became more popular.

COMPARISONS AMONG SUBGROUPS IN TRENDS IN PREVALENCE

Trend comparisons are given below for population subgroups defined on the following six dimensions: sex, college plans, region of the country, population density, socioeconomic status, and racial/ethnic group. In general, we will focus on the results from twelfth graders, because there is a much shorter trend interval available for eighth and tenth graders. Appendix D to this volume contains tables providing subgroup trends for all three grade levels.

Sex Differences in Trends

- Most of the sex differences mentioned earlier for individual classes of drugs have remained relatively unchanged over the past 21 years—that is, any trends in overall use have been fairly parallel for both males and females. There are, however, some exceptions (see Appendix D).
- The absolute differences between the sexes in ***marijuana*** use narrowed somewhat between the 1970s and 1980s, although both sexes saw a similar decline in use from 1979 to 1992. At all three grade levels, both sexes also have shown an increase in marijuana use since 1992.
- Between 1975 and 1977 there was a small sex difference in ***tranquilizer*** use for twelfth graders (females this age used them more frequently than males). This difference virtually disappeared by 1978, and there has been no sex difference since. There has been a consistent sex difference in eighth grade, with slightly higher use among females.

In tenth grade females had higher rates in 1991 and 1992, but had rates equivalent to males thereafter.

- The sex differences in ***cocaine*** use were greatest in the peak years of use (1979 through 1986) and diminished considerably during the decline phase. Although the differences have lessened, males still use more frequently than females. There has been no sex difference in eighth or tenth grades. The sex differences in ***crack*** use are very similar to cocaine: higher rates of use among male twelfth graders compared to female, but little difference in eighth and tenth graders.

- Regarding ***stimulant*** use, a sex difference emerged in 1981 and 1982 using the original version of the question; but the revised question introduced in 1982 showed no sex difference, suggesting that over-the-counter diet pills accounted for the higher use among females in those two years. Since 1982 the rates for the two sexes have remained very close with both sexes showing a substantial decrease in use through 1992, and both showing an increase in use since then. In both eighth and tenth grades, females reported higher use and have shown a more rapid rise in use.

- Following a long period of decline in use, sex differences in the use of ***opiates other than heroin*** had narrowed to the point of very little difference by 1992. (Males have almost always had higher rates of use.) However, males have shown the sharper increase in use since then, widening the gap again.

- The proportion of males who used ***any illicit drug*** in the prior year rose between 1975 and 1978, from 49% to 59%, and then declined steadily to 29% by 1992 (see Figure 12). Use among females peaked later, increasing from 41% in 1975 to 51% in 1981 and then dropping to 25% by 1992. (If amphetamine use is not included in the statistics, use by females peaked earlier [in 1979] and then declined as well.) Both male and female rates were up considerably by 1995, to 42% and 36%, respectively. The earlier declines for both sexes were attributable largely to the declining marijuana use rates; the subsequent declines (through 1992) were due to decreases in use of the other illicit drugs (primarily cocaine), in addition to marijuana. The more recent increases are due to increases in marijuana use in 1994 and 1995 as well as increases in several other drugs.

- Although trends tend to remain fairly parallel, when amphetamine use is excluded from the calculations for ***illicit drugs other than marijuana***, somewhat different levels emerge for males and females. Male use is higher.

- Among twelfth graders the sex differences in ***alcohol*** use have narrowed slightly since 1975. For example, the modest differences in annual prevalence in the 1970s (males were higher) had nearly

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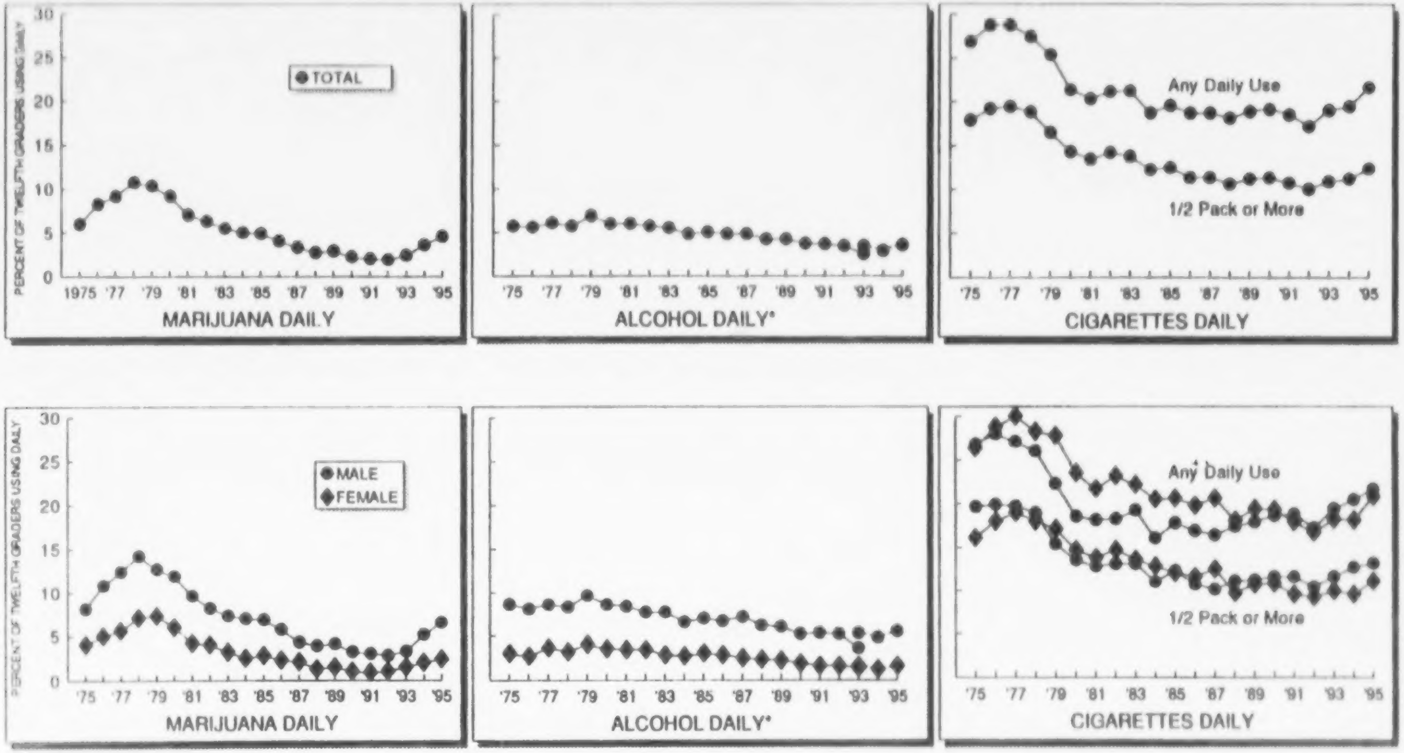
FIGURE 10

Trends in Thirty-Day Prevalence of Daily Use of Marijuana, Alcohol, and Cigarettes for Twelfth Graders by Total and by Sex



NOTE: Daily use for alcohol and marijuana is defined as use on 20 or more occasions in the past thirty days. Daily use of cigarettes is defined as smoking one or more cigarettes per day in the past thirty days.

*The dotted lines connect percentages which have been adjusted. See text for details.

FIGURE 11

Trends in Two-Week Prevalence of Heavy Drinking Among Twelfth Graders by Sex

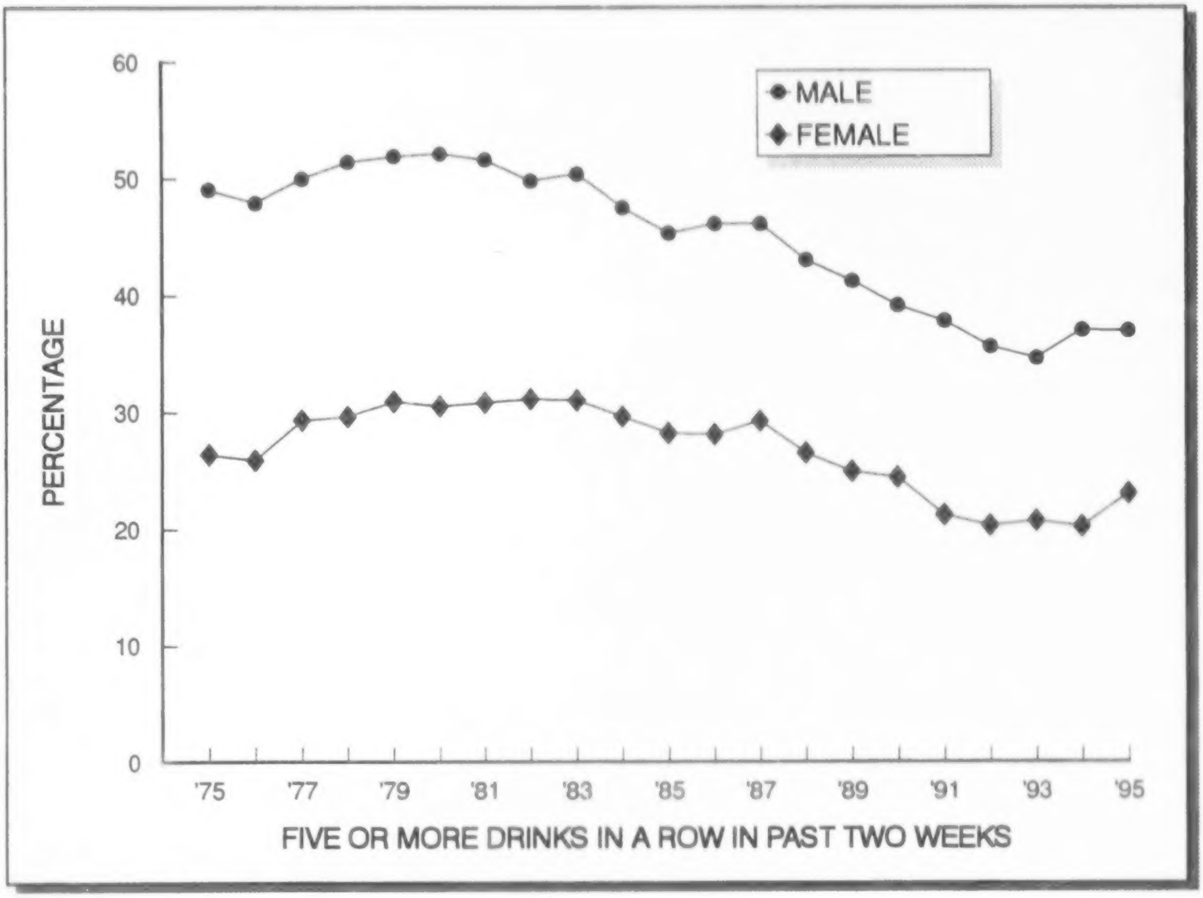


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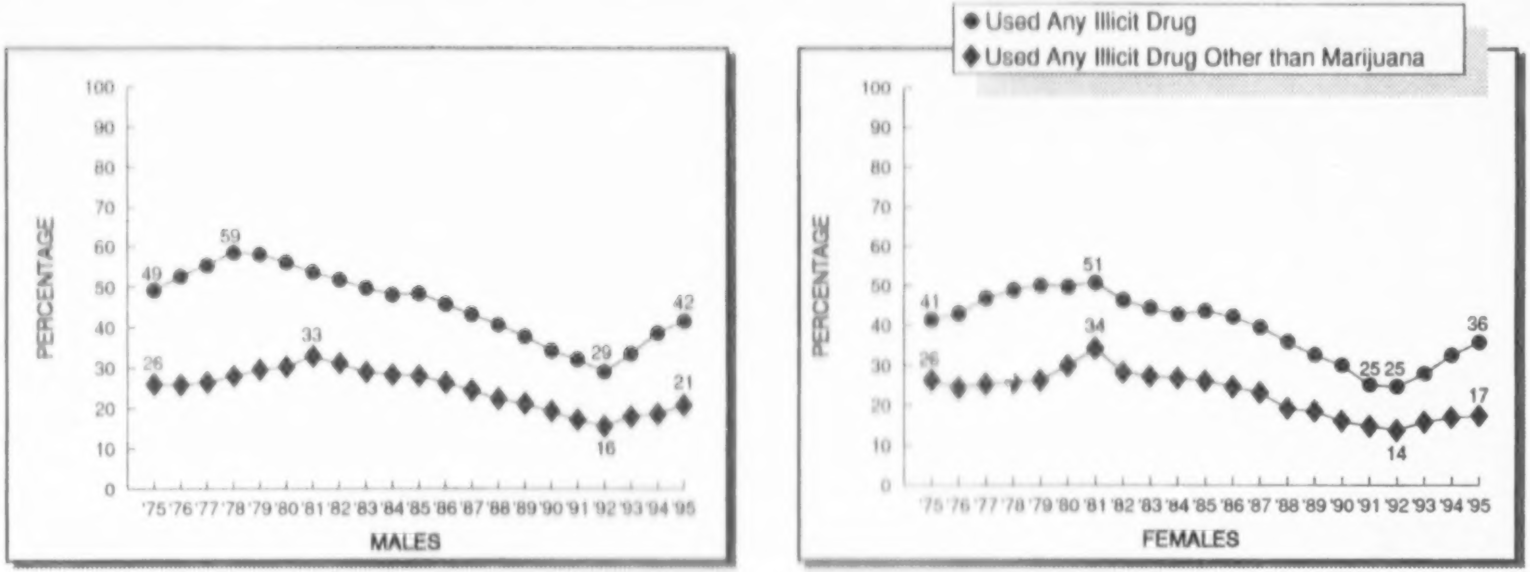
FIGURE 12

Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders

by Sex



NOTE: See Figure 8 for relevant footnotes.

disappeared by 1985. The 30-day prevalence rates for males and females differed by 12.8 percentage points in 1975 (75.0% vs. 62.2%, respectively), but that difference was down 8.2 percentage points by 1993 (54.9% vs. 46.7%). The difference remains about the same in 1995. Although substantial sex differences in ***daily use*** and ***occasions of heavy drinking*** still remain, by 1993 differences had narrowed there also (Figures 10 and 11). For example, between 1975 and 1993 the proportion of males admitting to having five drinks in a row during the prior two weeks showed a net decrease of 14 percentage points (49% to 35%), whereas females decreased by only 5 percentage points, from 26% to 21%.[26] By 1995 both rates had risen slightly, to 37% and 23%.

- On one of the six questionnaire forms administered to the twelfth graders, respondents are asked separately about their use of beer, wine, and hard liquor. The answers to these questions reveal that differences in beer consumption account for much of the large sex difference in occasions of heavy drinking: 37% of 1995 senior males report having ***five or more beers*** in a row during the prior two weeks vs. 20% of the females. Males are also somewhat more likely than females to report having ***five or more drinks of hard liquor*** (25% for males vs. 16% for females) but equally likely to drink ***wine*** that heavily (6% for both males and females). This pattern—a large sex difference in heavy use of beer, a smaller difference in heavy use of hard liquor, and very little difference in heavy use of wine—has been present throughout the study, with little systematic change over time. In 1988, questions on ***wine coolers*** were added; in 1995, 7% of the males and 11% of the females drank five or more in a row in the past two weeks.

  In the lower grades male and female drinking rates are more equivalent and have remained so since the first measurement in 1991. Unlike the twelfth graders, there is virtually no gender difference in annual prevalence, or in the annual prevalence of having been drunk. These sex differences seem to emerge with age, as is the case for many of the drugs. The same is true for binge drinking in the prior two weeks. The data have consistently shown practically no sex difference in eighth grade, a modest one in tenth grade, and a large one (though diminishing) in twelfth grade.

- In 1976 we observed that, among twelfth graders, females caught up to males in ***daily cigarette smoking*** (see Figure 10). Between 1977 and 1981, both sexes showed a decline in the prevalence of such smoking, but use among males dropped slightly more, resulting in females having a higher rate of daily smoking until 1990. More importantly, since 1992 both sexes have shown a rise in 30-day and daily smoking. During the last three years (1992-1995), males' smoking rates grew to be higher than females' in terms of 30-day, daily, and half-pack-a-day prevalence rates for twelfth graders.

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[26] It is worth noting that the same number of drinks produces substantially greater impact on the blood alcohol level of the average female than the average male, because of sex differences in the metabolism of alcohol and body weight. Thus, sex differences in frequency of actually getting drunk may not be as great as the binge drinking statistics would indicate, since they are based on a fixed number of drinks.

At the eighth and tenth grade levels there has been very little sex difference in 30-day or daily smoking levels. In both grade levels use among females began to rise sharply after 1991 (a year earlier than among the twelfth graders) but smoking by males rose sharply a year later and their 30-day and daily smoking prevalence rates have been nearly identical since—meaning that there have been rising levels of use for both sexes.

- Since 1986, in the case of high school seniors, and 1991, when usage measures were first taken for eighth and tenth grade students, there has been a very large sex difference in the use of ***smokeless tobacco***. The much higher rates among males have been fairly steady, but the very low rates among females (in all grades less than 3%) have been inching upward.

Trend Differences Related to College Plans

- Both college-bound and noncollege-bound students have shown fairly parallel trends in overall ***illicit drug use*** over the years (see Figure 13) with the noncollege-bound consistently having the higher rate.[27] Since 1993, there has been a slightly sharper increase in use of any illicit drug among the college-bound twelfth graders.

- This was due in large part to a sharp increase in 1993 of ***marijuana*** use among the college-bound compared to a very small increase among the noncollege-bound that year. Since then use has been rising sharply in both groups.

  At the eighth and tenth grade levels, however, both college-plans groups moved up in the same year, which was after 1991 among the eighth graders and after 1992 among the tenth graders.

- Changes in use of the other ***specific drug classes*** also have been generally parallel for the two groups since 1976, with only minor exceptions (see Appendix D). Between 1983 and 1986 annual ***cocaine*** use increased very little among the college-bound seniors, but rose by about one-quarter among the noncollege-bound, very likely due to the greater popularity of ***crack*** among the noncollege-bound. After 1986 both groups showed large declines in use, and some convergence in their rates of cocaine use.

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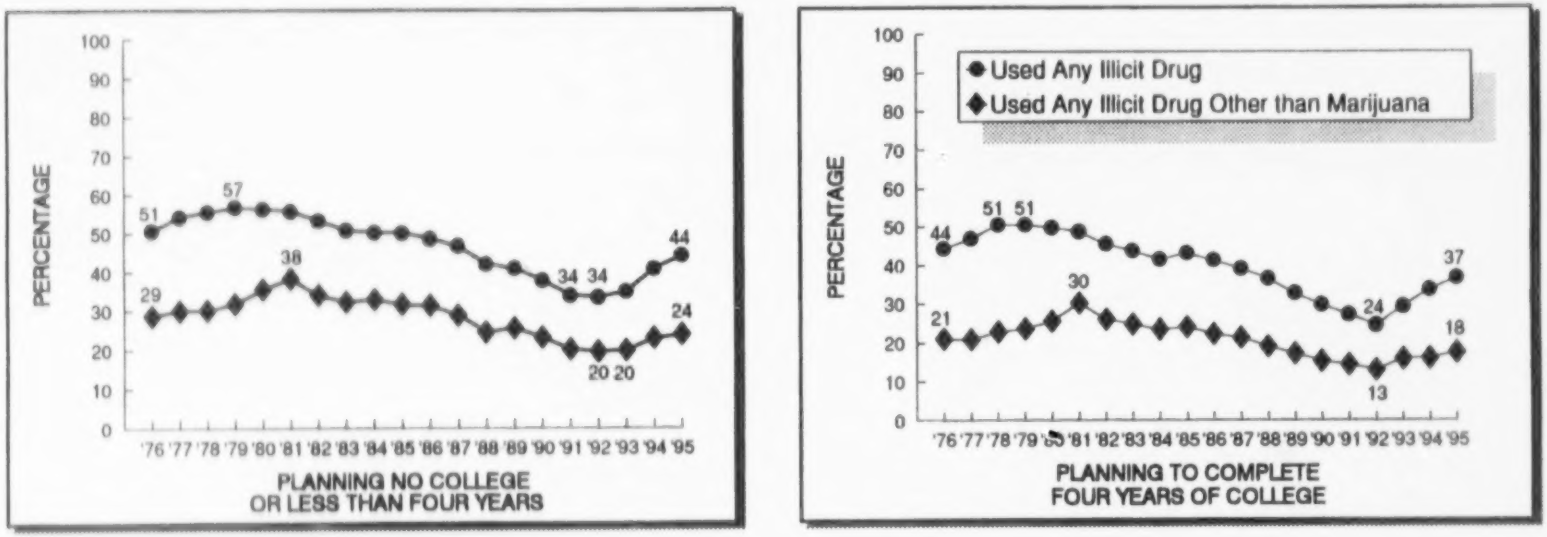
[27] Because of excessive missing data in 1975 on the variable measuring college plans, group comparisons are not presented for that year.

FIGURE 13

Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders by College Plans



NOTE: See Figure 8 for relevant footnotes.

Rates of cocaine use have been rising in all grades (since at least as far back as 1991 in the case of eighth graders, and since 1992 in the case of tenth and twelfth graders). In the two lower grades, this rise has been sharper among those not planning on college, enlarging the already substantial differences between these two groups. The story is largely the same for both of the component parts of cocaine use, ***crack*** and ***other cocaine***. In twelfth grade, however, there is less evidence of such a divergence since 1992 although both groups have shown a rise in all forms of cocaine use.

- As the overall prevalence of a number of drugs fell through 1992 among twelfth graders, there was some convergence of usage rates between the college-bound and noncollege-bound, due to a greater drop among the latter group. This was true for ***tranquilizers, sedatives, methaqualone, stimulants, barbiturates, nitrite inhalants, hallucinogens other than LSD, LSD,*** and ***opiates other than heroin.*** But as some of these drugs began to increase in use after 1992, the differences have grown larger for many of them (e.g., LSD, psychedelics other than LSD, stimulants, and opiates other than heroin), with the increases being sharper, and in some cases starting earlier, among the noncollege-bound.

- For many years there had been only a modest difference in the low annual ***heroin*** prevalence rates observed in twelfth grade for the college- and noncollege-bound; in recent years, rates have been slightly higher among the noncollege-bound.

  At the lower grade levels there has consistently been a larger proportional and absolute difference between these two groups, and in both grades the noncollege-bound group showed an earlier and sharper rise in heroin use than their counterparts who said they expected to complete four years of college.

- The noncollege-bound have consistently had higher rates of ***LSD*** use in all years measured in all three grade levels, and their use has generally moved in the same direction over time. In 1995, there was a particularly sharp upturn among the noncollege-bound. Both groups are now at their highest rate of LSD use since the study began twenty years ago.

  In the lower grades there has been a sharp upturn in LSD use beginning after 1991 among the eighth graders, especially among the noncollege-bound, and after 1992 among the tenth graders, initially only among the noncollege-bound. The increases continued through 1995 among both groups.

- The ***binge drinking*** rates of the two senior groups have converged modestly since 1981, though the rate for the college-bound is still considerably lower. Both groups have shown a very modest increase since 1993.

In eighth and tenth grade there are larger differences in binge drinking rates, and the two groups are diverging because the noncollege-bound have shown some increase in binge drinking since 1991 (eighth grade students) or 1992 (tenth grade students). The college-bound have exhibited only a very slight rise over those intervals.

- In all three grade levels there has been a consistent and very large difference in current daily use prevalence for ***cigarettes*** between the noncollege-bound (who have higher use) and the college-bound. (For example, in 1995 the daily smoking rate was three times as high among the noncollege-bound eighth graders, at 22.5% vs. 7.5% for the college-bound.) In general, the two groups have moved pretty much in parallel, except that in the twelfth grade the recent upturn in smoking began a year earlier (after 1992) among the college-bound.

- Among seniors, ***steroid*** use has declined some in both groups since 1989 when it was first measured, but at the eighth and tenth grade levels use in both groups is stable.

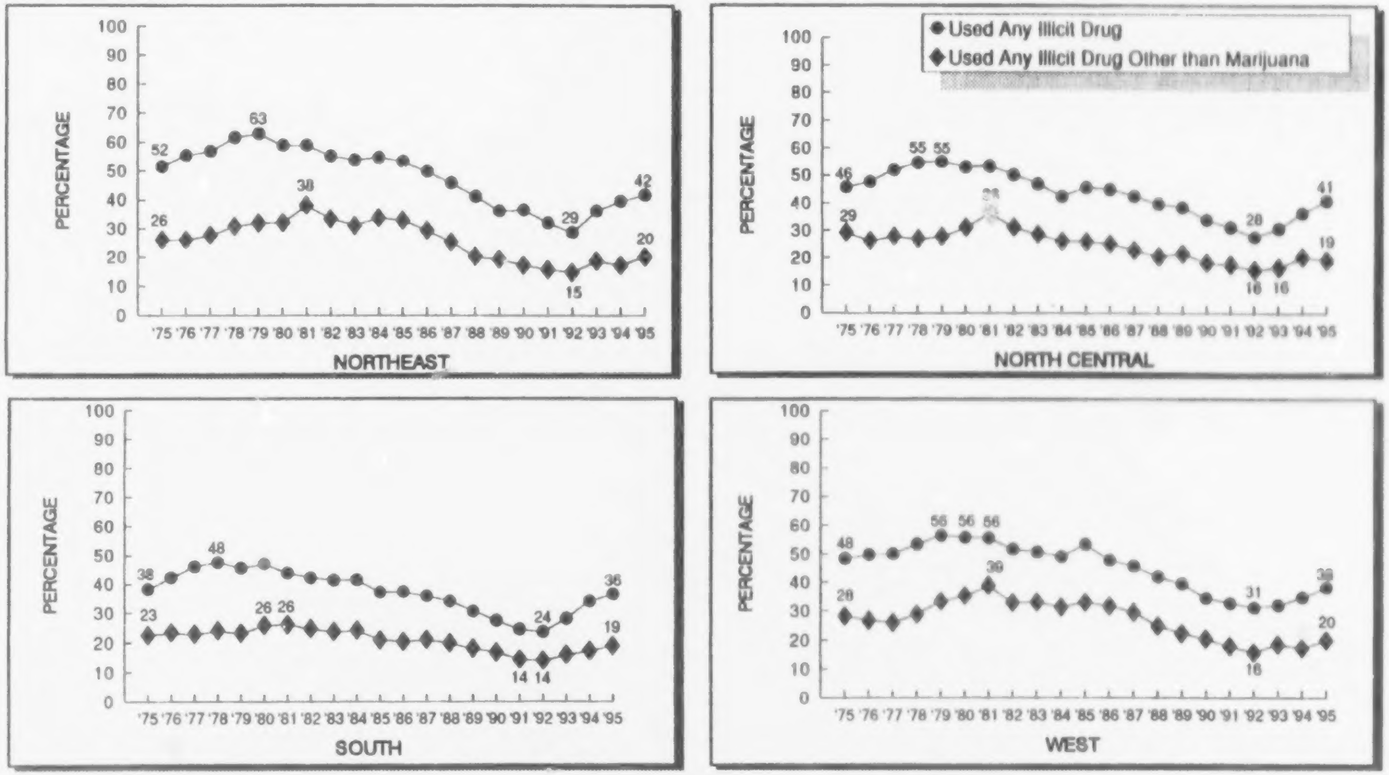
Regional Differences in Trends

- In all four regions of the country proportions of high school seniors using ***any illicit drug*** during the year reached their peaks in 1978 or 1979 (Figure 14a), and then, through 1992, generally fell. While rates of use at present are lower than in the peak years in all regions, since 1992 use of any illicit drug has been increasing steadily in all four regions, and at the upper two grade levels. Use began to rise a year earlier in eighth grade, particularly in the West.

- As noted, a major factor in the early rise of ***illicit drug use other than marijuana*** (Figure 14a) was an increase in reported ***amphetamine*** use. The rise in amphetamine use among seniors appeared in all four regions; however, the rise in lifetime prevalence from 1978 to 1981 was only 6 percentage points in the South, whereas in the other regions the percentages rose between 9 and 12 points. In essence, the South was least affected by both the rise and the fall in reported amphetamine use. (After 1981 all four regions showed substantial declines in amphetamine use through about 1992.) Since 1992 they have all shown some increase. In 1984 and 1985, when the cocaine and crack epidemics were at their peaks, it was the Northeast and the West which were most affected and showed some increase on the index of illicit drug use other than marijuana, before the longer-term decline took over again. All regions have shown some modest increase in use since 1992.

FIGURE 14a

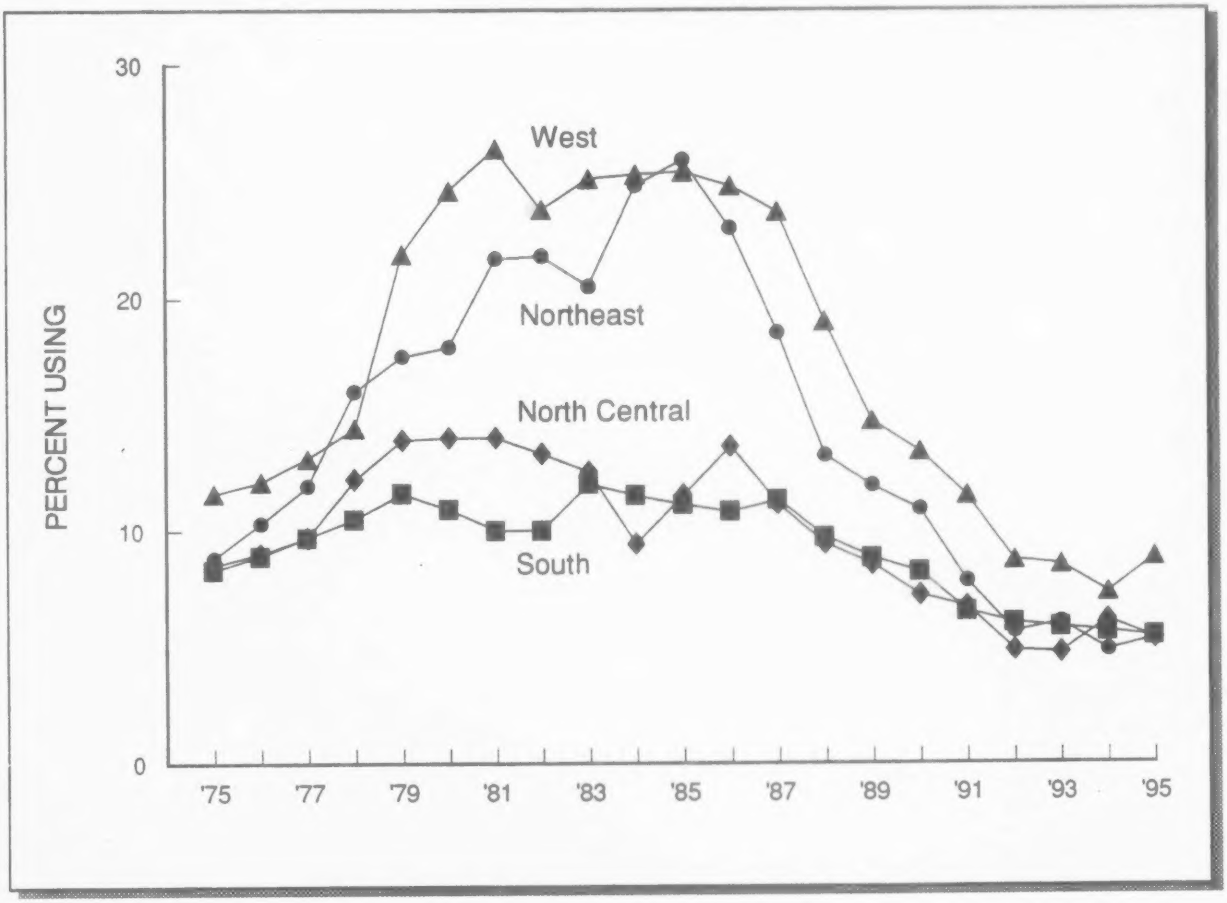
Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders
by Region of the Country



NOTE: See Figure 8 for relevant footnotes.

FIGURE 14b

Trends in Lifetime Prevalence of Cocaine Use for Twelfth Graders
by Region of the Country



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- ***Cocaine*** use has shown very different trends in the four regions of the country leading to the emergence of one of the largest regional differences observed for any of the drugs (see Figure 14b for differences among twelfth graders in lifetime prevalence trends). In the mid-1970s, there was relatively little regional variation in cocaine use. As the nation's cocaine epidemic grew, large regional differences emerged. By 1981 *annual* use had roughly tripled in the West and Northeast, nearly doubled in the North Central, and increased "only" by about 30% in the South. This pattern of large regional differences held for about six years, until a sharp decline in the Northeast and the West substantially reduced them. At all three grade levels there has been a modest overall increase in use in all regions since 1991 or 1992.

- After ***crack*** use was first measured among twelfth graders in 1987, its use dropped in all four regions, but most in the West and Northeast, both of which initially reported higher use rates than the other regions. By 1991 little regional difference remained, although the West still had the highest rate of use. Since 1991 or 1992 there has been some increase in all regions, but particularly in the West. In eighth and tenth grade all regions have generally shown some increase in crack use since the early 1990s, again with the West showing the largest increases and the highest levels of use.

- ***Marijuana*** use has risen substantially in all four regions and at all three grade levels since 1991 in the case of eighth graders and since 1992 in the case of tenth and twelfth graders. The long-term trends for twelfth graders generally showed quite parallel trends from 1975-1992, with the South pretty consistently having the lowest level and the Northeast the highest.

- Between 1975 and 1981, sizeable regional differences in ***hallucinogen*** use emerged, as use in the South dropped appreciably. In 1981, both the North Central and the West had annual rates that were about two and one-half times higher than the South (10.3%, 10.4%, and 4.1%, respectively) and the Northeast was three times as high (12.9%). After 1981, hallucinogen use dropped appreciably in all regions except the South (which continued to be lowest), considerably reducing these regional differences. In the early 1990s, use was consistently lower than average in the South, but the differences among the other three regions were small. A considerable increase in the South after 1991 brought the annual rates up to the level of the other regions. At present, use of ***LSD*** does not vary much by region, although it had a trend story in earlier years quite similar to that just described for hallucinogens as a group of drugs.

- Between 1979 and 1982, ***PCP*** use dropped precipitously in all regions. The drop was greatest in the Northeast, which in 1979 had a usage rate roughly double that of all the other regions. In general, PCP use has remained low since 1982.

- Among twelfth graders all four regions exhibited a substantial decline from the early 1980s to the early 1990s in 30-day ***alcohol*** prevalence and in occasions of ***binge drinking***. As a result, the regional differences diminished somewhat; however, the relative positions of the four regions have remained generally unchanged. The South and the West still have the lowest rates, the Northeast and North Central the highest. In the mid-1990s some increase in use began in all four regions.

- It is noteworthy that from 1992-1994—a period of overall increase in cigarette smoking—the West was the only region which did not show an increase in ***daily smoking*** in twelfth grade (although by 1995 use began to increase in the West, as well). This lack of increase in the West may be due to the fact that California conducted a major anti-smoking campaign in recent years.

- The use of ***smokeless tobacco*** has generally been highest in the South at all three grade levels, followed closely by the North Central. Among twelfth graders, however, use in the North Central has risen sharply since 1989, giving that region considerably higher rates than the others, at present.

Trend Differences Related to Population Density

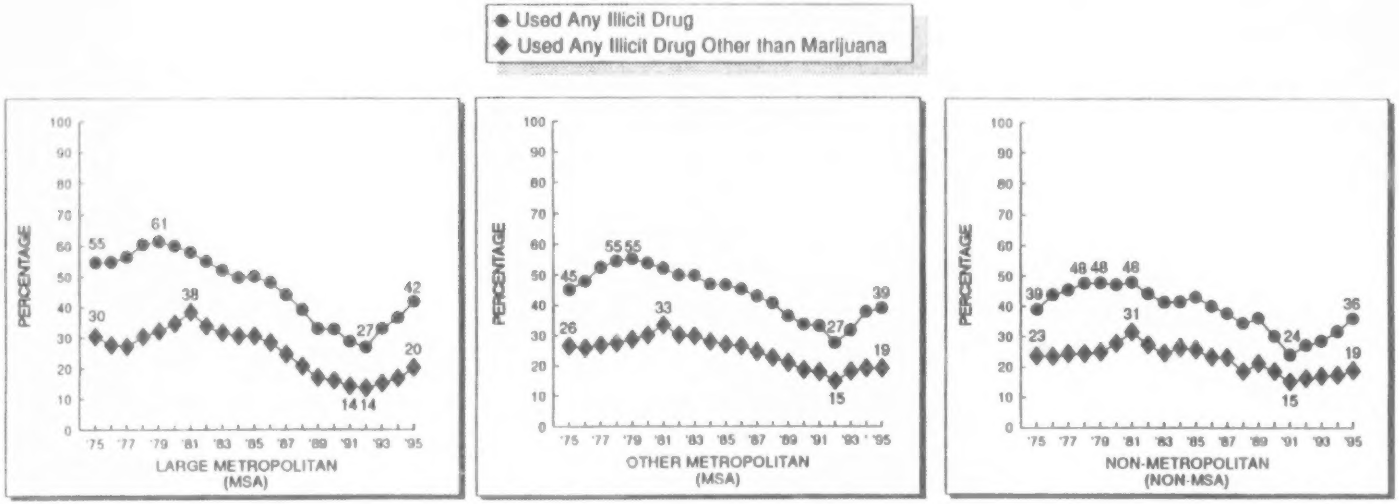
- Proportions of seniors using ***any illicit drug*** in all three levels of community size peaked in 1979 (see Figure 15a). Although the smaller metropolitan areas and the nonmetropolitan areas never closed the gap between their counterparts in the large metropolitan areas at the peak levels, they did narrow it considerably. Most of that narrowing was due to changing levels of marijuana use, and most of it occurred prior to 1978. After a long period of decline in this measure, all three levels of community size showed increases since 1991 or 1992 on the any-illicit-drug-use measure.

- The overall proportion of twelfth grade students involved in ***illicit drug use other than marijuana*** peaked in communities of all sizes in 1981, and then fell (Figure 15a). In the early 1990s the large metropolitan areas actually showed slightly lower rates than the other two strata—a reversal of earlier differences. After 1991 or 1992 all three strata increased slightly.

- During the years in which use of various drugs increased, significant differences emerged among the three levels of urbanicity in use of a number of specific classes of drugs. In more recent years, those differences narrowed, as use rates declined. Figure 15b shows the trends for annual prevalence of ***alcohol, marijuana***, and ***cocaine***. It shows that in the peak years of use for each drug, the differences among the three population density strata were greatest (with large cities at the top), but that as use declines, the three strata tend to

FIGURE 15a

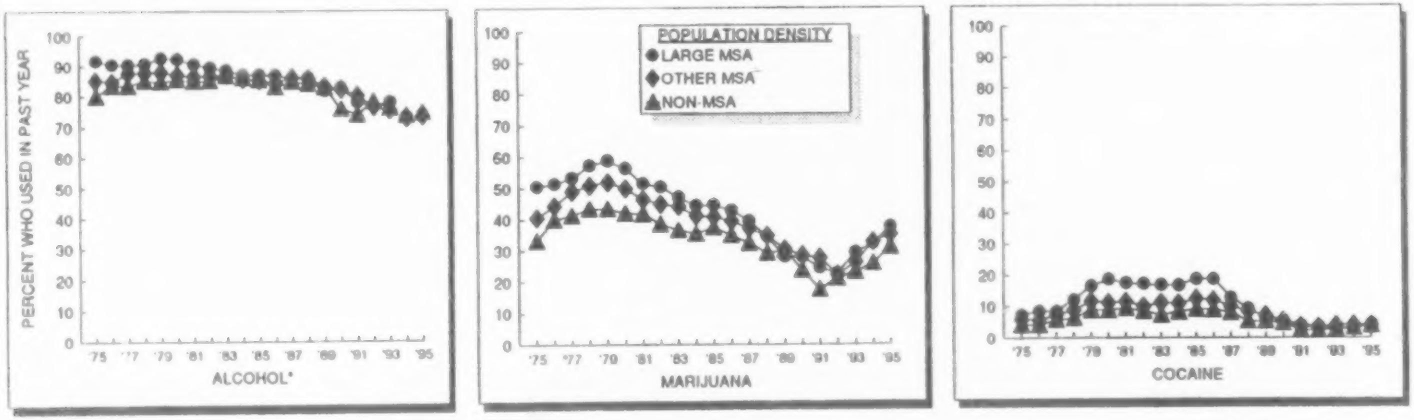
Trends in Annual Prevalence of an Illicit Drug Use Index for Twelfth Graders
by Population Density



NOTE: See Figure 8 for relevant footnotes.

FIGURE 15b

Trends in Annual Prevalence of Alcohol, Marijuana, and Cocaine Use for Twelfth Graders
by Population Density



*1993 data points are based on the data from the questionnaire forms containing the original wording of the alcohol questions, 1994 and 1995 data points are based on the revised alcohol questions. See text for details.

converge.

- For example, the increase in ***cocaine*** use between 1976 and 1979, although dramatic at all levels of urbanicity, was clearly greatest in the large cities. Between 1980 and 1984, use was fairly stable in all groupings, and in 1985 it showed a rise in all groupings. In 1986 they all stabilized again, and in 1987, began a decline. Just as the earlier rise had been greatest in the large cities, so was the decline (see Figure 15b). By 1990 there were only small differences by urbanicity in cocaine use among seniors, and this still remains the case. There are very small differences in lower grades, as well.

- Use of ***crack*** has declined more among the large cities than in the smaller areas. Since 1986, when it was first measured among twelfth graders, annual use is down by 3.9 percentage points (from 5.9% to 2.0%) in the large cities, by 1.4 percentage points (to 2.1%) in the other cities, and by 1.4 percentage points (to 2.1%) in the nonmetropolitan areas. There has been a gradually rising trend line in all three strata since 1991 or 1992 in all three grades.

- There is evidence of a decline in 30-day ***alcohol*** prevalence in the large cities in recent years—one which has narrowed considerably the differences among strata. For example, 30-day prevalence in the large cities was down by 26 percentage points, from 78% in 1980 to 52% in 1993. The smaller metropolitan areas decreased 21 percentage points (from 71% to 50% in 1993) and the nonmetropolitan areas dropped by 17 percentage points (from 69% to 52% in 1993). Since 1993 use has been fairly stable in the large cities, while in the other areas it has increased some.

  Similarly for ***binge drinking***, levels since 1993 have been fairly stable in large cities but rising in the nonmetropolitan areas. (This is true at all three grade levels.)

- In the late 1970s ***PCP*** use was correlated with community size, but since 1981 there has not been a consistent relationship.

- ***Marijuana*** use also showed a convergence among the three urbanicity groups by 1989 (Figure 15b). Use consistently had been correlated positively with community size. The greatest differences occurred in one of the peak years of usage, 1978. After that both the absolute and proportional differences diminished through 1992 and the more urban areas exhibited a greater decline. Starting in 1993 communities in all size categories showed a turnaround in marijuana use; in fact, the turnaround began a year earlier in the non-metropolitan areas. As use has risen, slightly larger differences related to urbanicity appear to be emerging and at all three grade levels, but the increase in marijuana use has been quite sharp in all strata at all three grade levels.

- In the last half of the 1970s, the use of ***opiates other than heroin*** was consistently highest in the large metropolitan areas and lowest in the nonmetropolitan areas. In recent years there has been no consistent difference among these groups.

- Between 1992 and 1995, there were increases in ***cigarette smoking*** in all three strata for all three grade levels. The increases were particularly sharp in the nonmetropolitan and small city strata.

- The remaining drugs show little systematic variation in trends related to population density.

Differences in Trends by Socioeconomic Status

The measure of socioeconomic status used in this study—namely, the average educational attainment level of the respondents' parents—was described in the previous chapter. Five different strata are distinguished and the students are sorted into those strata based on the educational level of their parents. It should be noted that the overall average educational level of parents has been rising, thus each of the five categories contains a slowly changing proportion of the sample. Figures 16a through 16f show trends for six selected measures of drug use. Trend data for the remaining drugs, broken by subgroup, may be found in Appendix D.

- In general there has been little change over time in the relationship between the socioeconomic status (SES) of the family of origin and prevalence rates for most of the drugs.

- ***Marijuana*** use, for example, has had little association with socioeconomic level throughout the life of the study, except that the lowest level of SES has consistently had a slightly lower prevalence rate. (This may in fact be due as much to a difference in the ethnic composition of this stratum, as we will see in the next section, than to social class differences.) All levels have shown similar declines in use since the late 1970s (Figure 16a), and all levels have shown comparable increases since 1992.

- ***Cocaine*** has shown what is perhaps the largest and most important change in its association with socioeconomic status (Figure 16b). From 1975 through 1981 a strong positive association evolved between cocaine use and SES, with the greatest increase in use occurring in the highest SES group and the least increase in the lowest SES group. From 1981 to 1985 use in the top SES levels declined, while use in the lowest SES group increased substantially between 1982 and 1985–an increase which likely reflected the introduction of the less expensive form of cocaine, ***crack***.

  The net effect has been that, since 1985, there has been no systematic association between overall cocaine use and socioeconomic status. The strong positive association which existed for roughly eight years disappeared. All SES levels showed a substantial decrease in cocaine use between 1986 and 1991, with little differential change since then.

In the lower grades, the use of both crack and other cocaine is highest in the bottom SES level. Otherwise the differences are small. (This is also true at twelfth grade for crack since 1992.)

- Except for the fact that the lowest SES group has consistently been a bit lower in its use of ***LSD*** than the four other strata, there was little association at the twelfth grade level between SES and the use of this drug over the interval from 1975, when the study began, through about 1984 (Figure 16c). As the overall usage level for LSD gradually increased after 1984, a positive association emerged, wherein the highest SES group was almost twice as likely as the lowest SES group to have used LSD in the prior twelve months. (In 1995, however, the gap is much smaller.) In eighth grade, it is the lowest stratum which has the highest usage level, with hardly any other differences. There are practically no differences in tenth grade by social class.

- There has been little difference across the five SES categories in reported use of ***inhalants*** (data not shown) although the top two categories have tended to have the highest prevalence rate in recent years, and the bottom category to have the lowest. Most strata have shown parallel increases since 1983, and in the case of eighth and tenth grade, since 1991, when they were first surveyed.

- There has been little difference among the SES groups in their trends in ***amphetamine*** use, but there have been some slight changes. (See Figure 16d.) In recent years (1991 through 1995), the two or three highest SES groups have the lowest rates of amphetamine use. In earlier years (1976 through 1990), there was usually a curvilinear relationship, with the two lowest *and* the highest SES groups tending to be low in amphetamine use. Since 1992 increases in use have occurred in all strata. At the eighth and tenth grade levels, amphetamine use generally has been negatively correlated with SES and the recent increase in use may be found in all groups, though it has been sharpest in the bottom two strata.

- The picture for ***alcohol*** use among high school seniors is similar to the one described earlier for marijuana: that is, there is little difference in the annual prevalence rates among the SES strata except that the lowest stratum has a lower prevalence than all the others; and they all move pretty much in parallel (data not displayed). The story for ***binge drinking*** is similar (Figure 16e). At the lower grade levels, the story is a bit different. Instead of having the lowest rate of binge drinking, as in twelfth grade, the lowest SES level consistently has the highest rate in eighth grade and one of the highest rates in tenth grade.

- From 1981 through 1985, ***daily use of cigarettes*** was ordinally and inversely related to SES, with each successively higher SES group smoking less (Figure 16f). Beginning in 1986, this ordinal relationship has held with only one exception. In the lowest SES group smoking has declined more than in the other groups, probably due to its racial composition, as will be discussed in the next section. The net result of that and other trends was that the SES differences narrowed. Since 1992 virtually all strata have shown an increase in daily smoking. Also, in eighth and tenth grades all strata have shown an increase in their ***30-day smoking*** rates since 1991, when the first measurement was taken, with the exception of the lowest SES stratum in eighth grade, which has remained stable.

Racial/Ethnic Differences in Trends

While the three major racial/ethnic groups examined here—whites, blacks, and Hispanics–have quite different levels of use of some drugs, it appears that for almost all drugs, their use has trended in similar ways.[28] Data have been examined here for these three groups using two-year moving averages in annual prevalence in order to provide smoother and more reliable trend lines. Even then, they tend to be a bit "bumpy," especially for Hispanics for whom we have the least data and for whom there is a higher degree of clustering by school in the sample.

- Figure 17a shows the trends in annual ***marijuana*** use for the three groups, and illustrates that they have generally moved in parallel—particularly during the long decline phase. Over the past several years, all three groups showed a rise in marijuana use at all three grade levels. In fact, African Americans, who started out with considerably lower usage rates, have greatly narrowed that gap during this period of upturn.

  In the two lower grades (data not shown) there has been a sharp upturn in marijuana use among all three racial/ethnic groups, as well. In tenth grade, as in twelfth, a sharper increase among African Americans has been narrowing the gap. While the trends for whites and Hispanics are quite parallel to each other, their relative positions change across grade levels. In eighth grade, Hispanics have the highest rate of use and whites and African Americans are similar and considerably lower. By tenth grade the whites have rates almost equivalent to Hispanics, and the African Americans are lower than either (though that gap is diminishing). By twelfth grade, whites have consistently had the highest rates, Hispanics somewhat lower, and African Americans the lowest. (Again, these differences have been diminishing in recent years. We believe that differential dropout rates,

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[28] An article looking at a larger set of ethnic groups used groupings of respondents from adjacent 5-year intervals to get more reliable estimates of trends. See Bachman, J.G., Wallace, J.M. Jr., O'Malley, P.M., Johnston, L.D., Kurth, C.L., & Neighbors, H.W. (1991). Racial/ethnic differences in smoking, drinking, and illicit drug use among American high school seniors, 1976-1989. *American Journal of Public Health, 81*, 372-377.

FIGURE 16a

Marijuana: Trends in Annual Prevalence by Average Education of Parents for Twelfth Graders

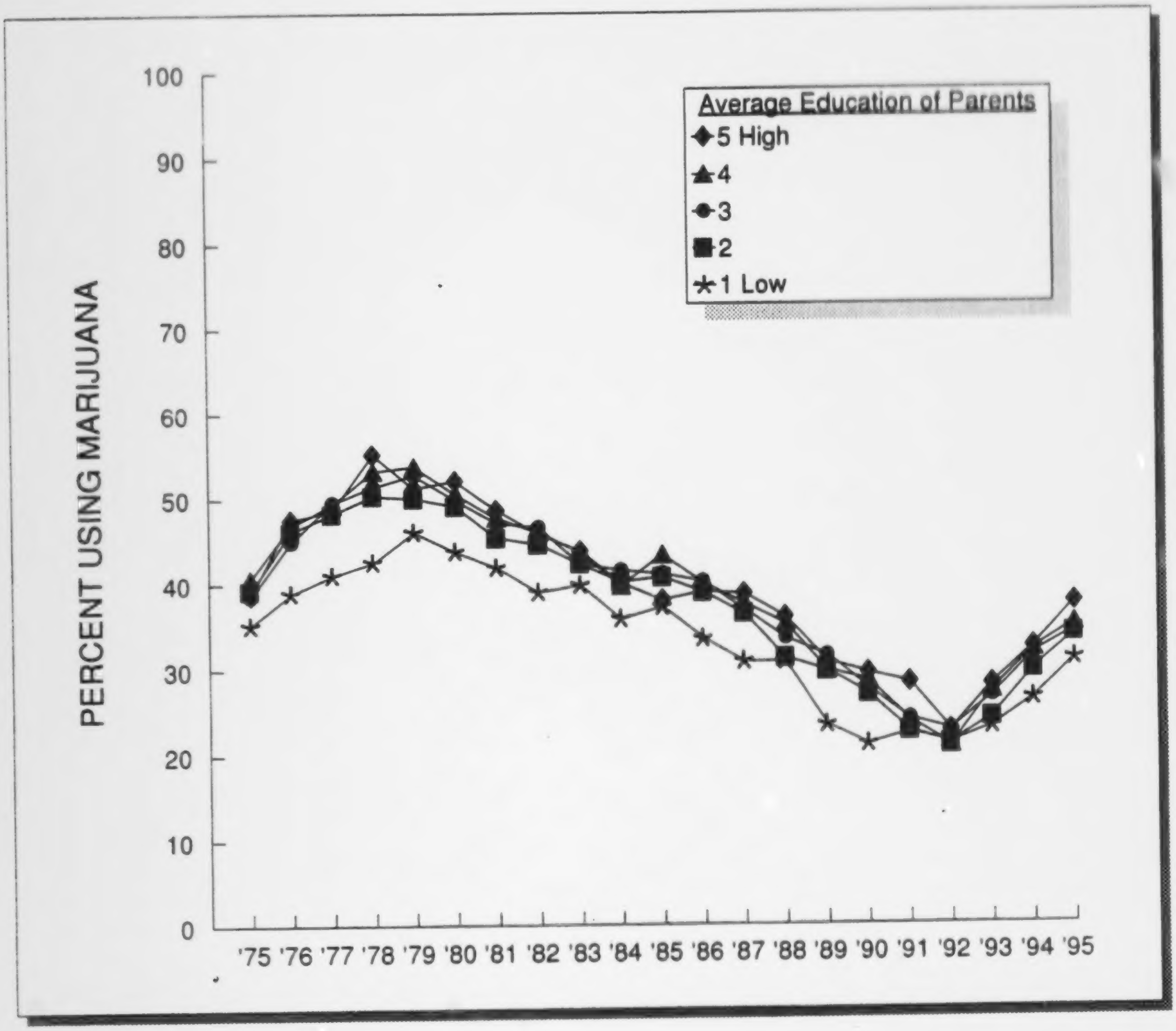


FIGURE 16b

Cocaine: Trends in Annual Prevalence by Average Education of Parents for Twelfth Graders

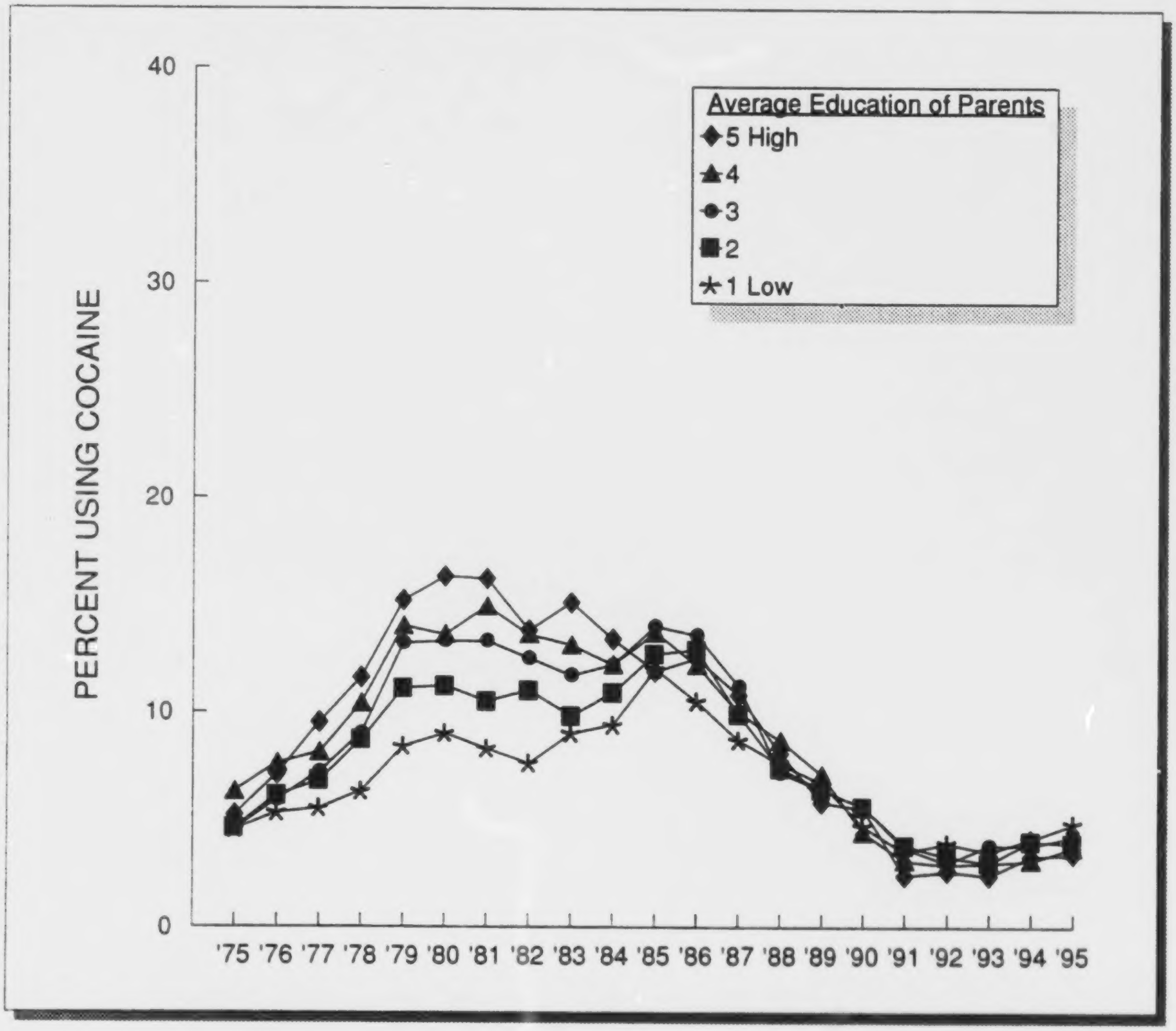


FIGURE 16c

LSD: Trends in Annual Prevalence by Average Education of Parents for Twelfth Graders

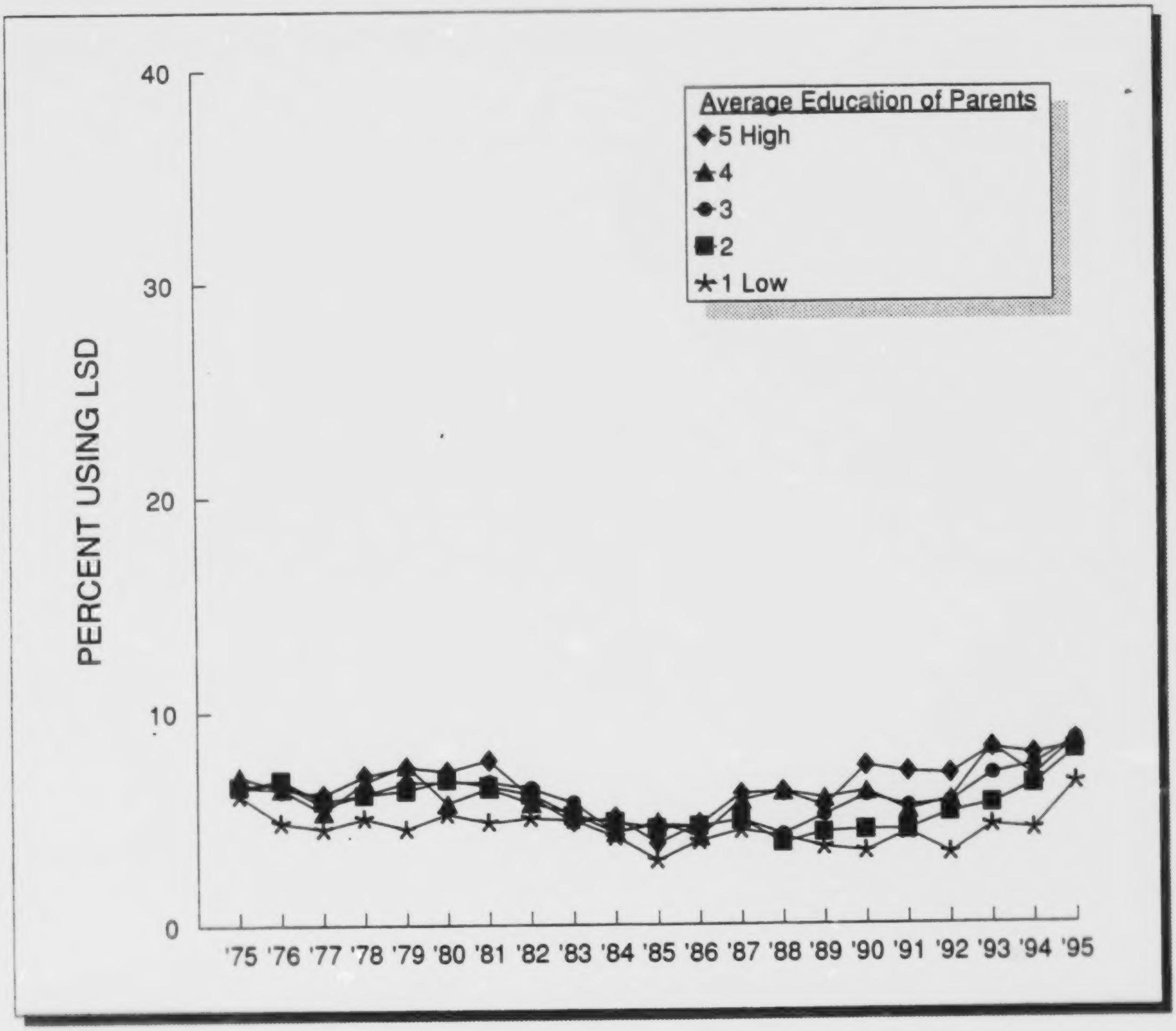
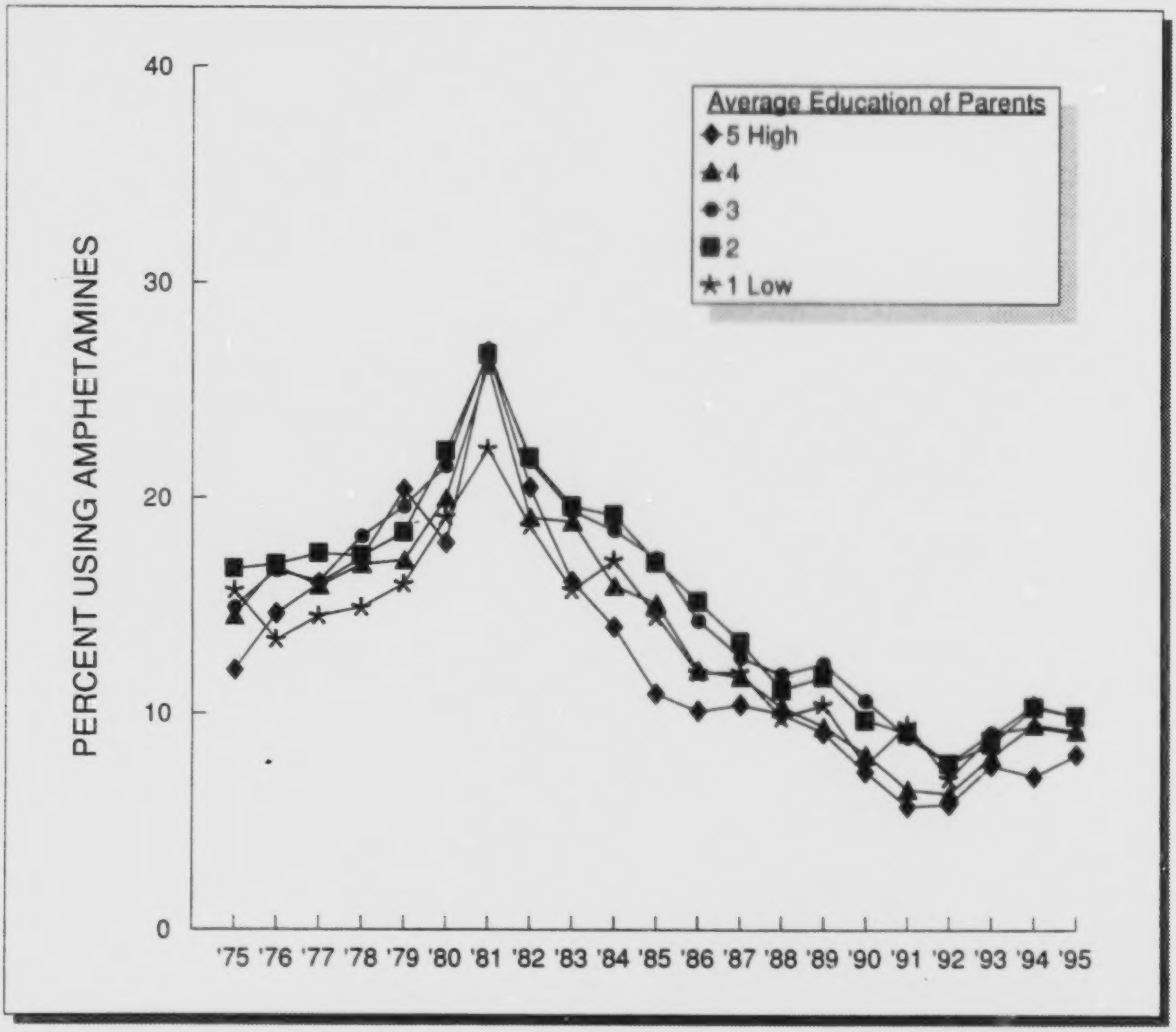


FIGURE 16d

Amphetamines: Trends in Annual Prevalence by Average Education of Parents for Twelfth Graders



NOTE: Beginning in 1982 the question about stimulant use (i.e., amphetamines) was revised to get respondents to exclude the inappropriate reporting of non-prescription stimulants. The prevalence rate dropped slightly as a result of this methodological change.

FIGURE 16e

Heavy Drinking: Trends in Two-Week Prevalence of 5 or More Drinks in a Row by Average Education of Parents for Twelfth Graders

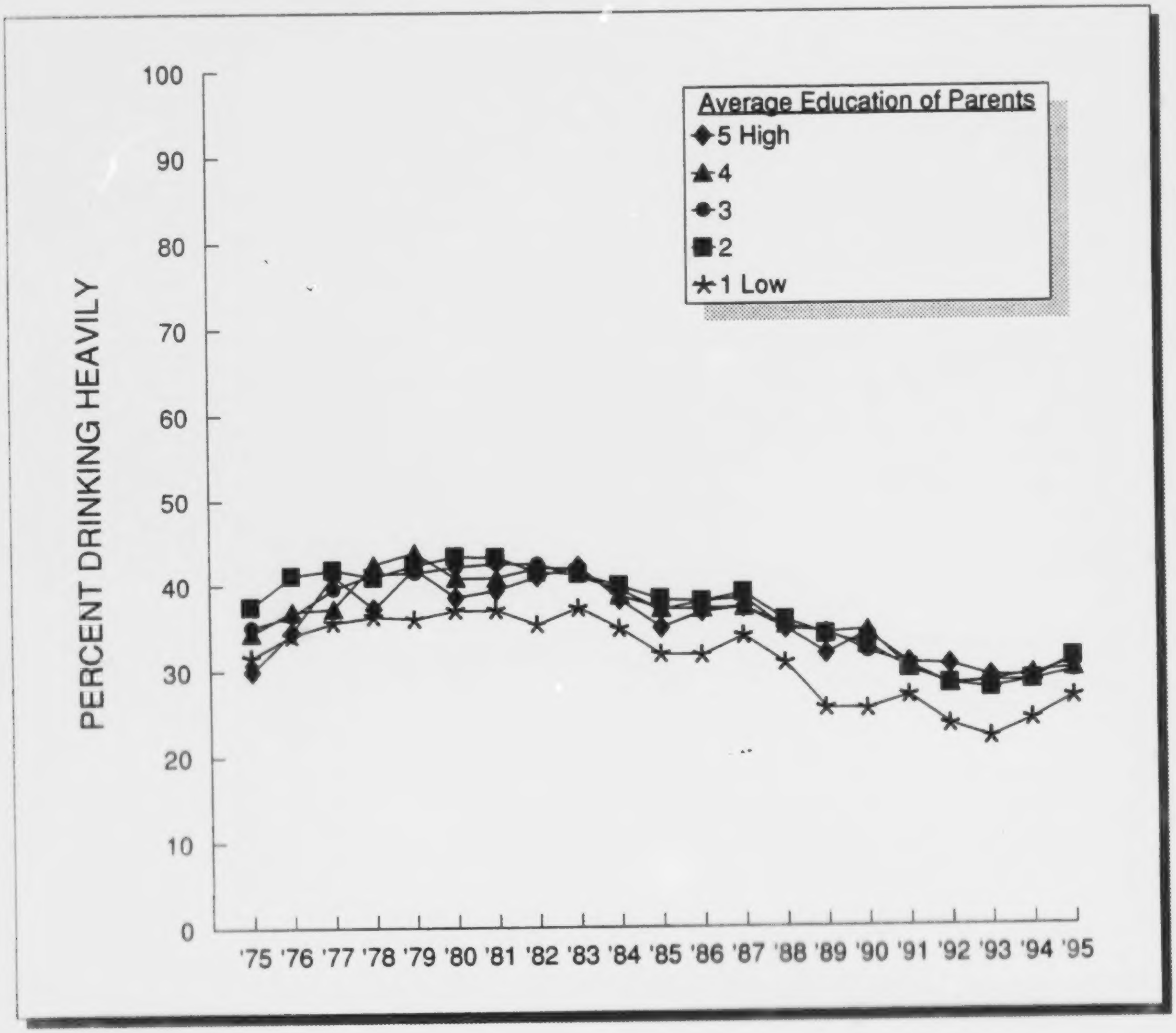
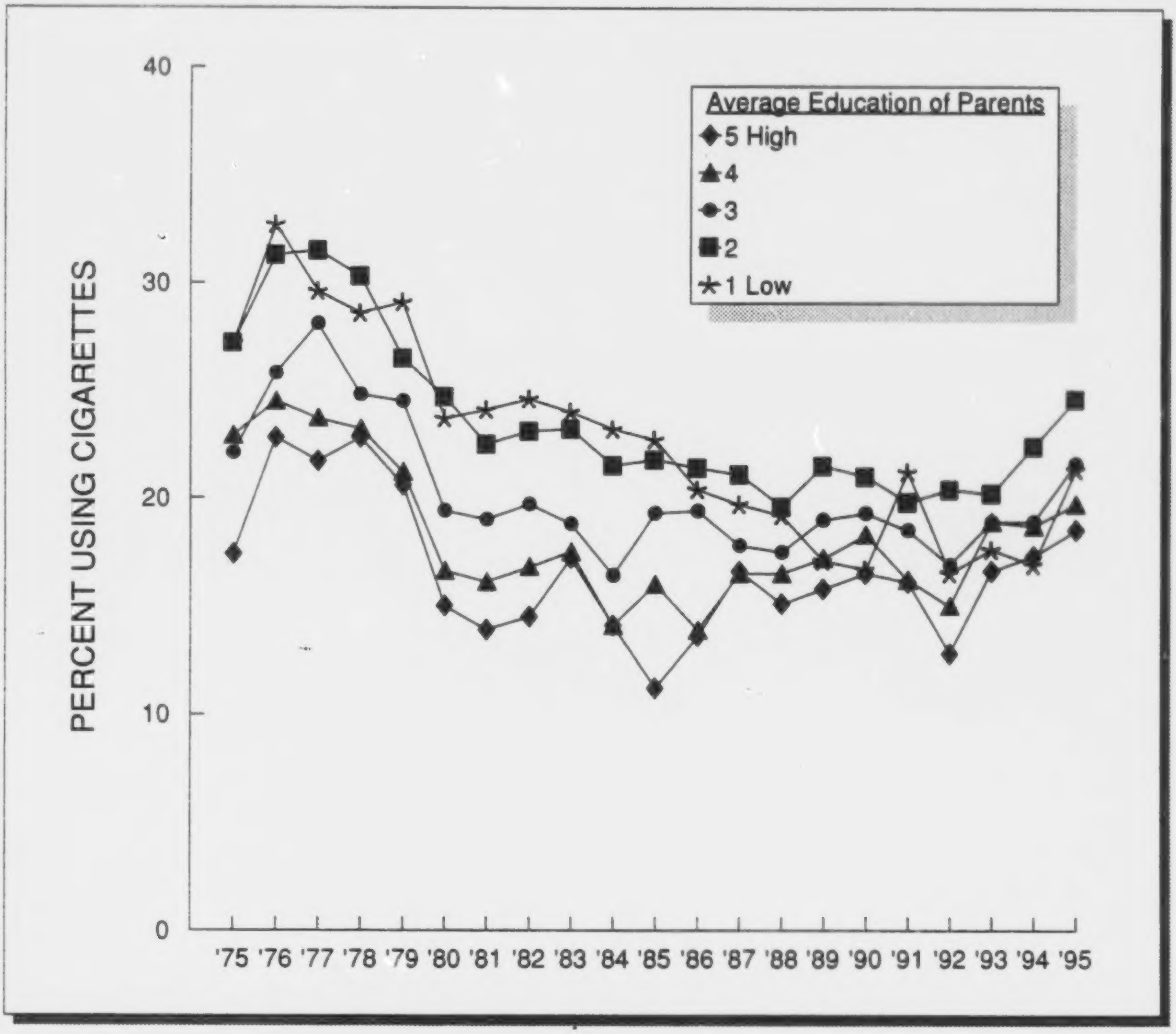


FIGURE 16f

Cigarettes: Trends in Daily Prevalence by Average Education of Parents for Twelfth Graders



with Hispanics having the highest rate, may account for much or all of these shifting comparisons across the three grade levels.)

- Figure 17a also shows the long-term trends for annual ***cocaine*** use among twelfth graders. It clearly shows that the rise in cocaine use occurred more sharply among whites and Hispanics than among blacks. The decline among blacks appears to have begun earlier but, of perhaps greatest importance, all three groups participated in the sustained decline in cocaine use after 1986. While a little difficult to discern in Figure 17a, twelfth grade Hispanics halted their decline at a higher level than whites and since then have held steady, whereas use among whites dropped further, but began to rise after 1993. Cocaine use by blacks fell to very low levels and stabilized there.

  At the twelfth grade level there was a crossover of whites, who used to have the highest prevalence for ***cocaine powder***, and Hispanics, who now have the highest prevalence (data not shown). Use among whites fell sharply, whereas among Hispanics use stabilized in 1989 after some decline. Use among blacks dropped through 1990 and then stabilized at a very low rate.

  In the two lower grades, ***cocaine*** use has risen most among Hispanics over the last two or three years, whereas over the same intervals, use has risen some among whites and very little among African Americans. Hispanics have substantially higher rates of use than the other two groups at both grade levels. This is also true for the two components: ***crack*** and ***cocaine powder***. Indeed, at the lower two grade levels, the trends for these two components are very similar, though the rates for crack are generally lower than for cocaine powder.

- At the twelfth grade level, the rise in reported ***inhalant*** use (unadjusted for the underreporting of nitrites) occurred about equally among whites and Hispanics from 1975 through 1995, although Hispanics have consistently had a lower rate of use. Blacks, on the other hand, showed practically no increase in their already low levels of use. They now have an annual prevalence which is less than a third that of whites. A similar picture emerges in eighth and tenth grade, except that the increase in recent years among Hispanics and whites has been even steeper than the increases in twelfth grade. It is clear from the data on both levels and trends that inhalant drugs have not been popular with black youngsters. Another class of drugs which has been similarly unpopular with them is the ***hallucinogens***.

- With regard to ***LSD*** and ***hallucinogens*** in general, blacks have consistently had far lower rates than whites or Hispanics. Both whites and Hispanics have shown sharp increases in LSD use among seniors (since 1989), among tenth graders (since 1992), and among the eighth graders (for whites only), since 1992. Whites have had the highest rate of hallucinogen use for more than 20 years at the twelfth grade level, but Hispanics have the highest rate in eighth grade (with whites rapidly catching up); the two groups have similar rates of use in tenth grade.

- The decline in the use of ***stimulants,*** which began among high school seniors in 1982, narrowed the differences among the three ethnic groups somewhat. The decline was greatest among whites, who started with the highest rates, and least among blacks, who started with the lowest rates. Hispanics have been about midway between the other two groups. Since 1992 there has been some increase in stimulant use among all three ethnic groups at all three grade levels.

- Use of ***barbiturates, methaqualone, tranquilizers***, and ***opiates other than heroin*** converged among seniors in these three racial/ethnic groups as use of these drugs has declined over a fairly long period. In general, whites consistently have had the highest usage rates in senior year, and also the largest declines; blacks have had the lowest rates, and therefore the smallest absolute declines. In the last few years, however, there has been some upward trending in tranquilizer use among whites and Hispanics in eighth and twelfth grades. ***Barbiturates***, which are reported only for twelfth grade, showed some increase in use since 1993 in all three ethnic groups. This has been true for ***opiates other than heroin*** as well. In both cases whites have the highest rates of use and blacks the lowest.

- Like most of the illicit drugs, the ***current daily alcohol*** rates are lowest for blacks (data not shown). They have hardly changed at all during the life of the study. Whites and Hispanics have daily usage rates now which are about equivalent, although whites had higher rates in the period 1977 through 1985.

  Among seniors there are large racial/ethnic differences in ***binge drinking*** (see Figure 17b), with blacks consistently having a rate below 20% (and now at 15%). In comparison, the rates for whites rose to a peak of around 45% in the early 1980s before declining to just over 30% a decade later (32% in 1995). Hispanics have been in the middle, and also had a gradual decline in use during the 1980s. Hispanics showed some decline in use in the 1980s, but less than did whites. At the eighth grade level the three ethnic groups are moving pretty much in parallel (all have a little increase), but at the tenth grade level the rate for African Americans is dropping slowly while the rates for the other two groups are increasing gradually.

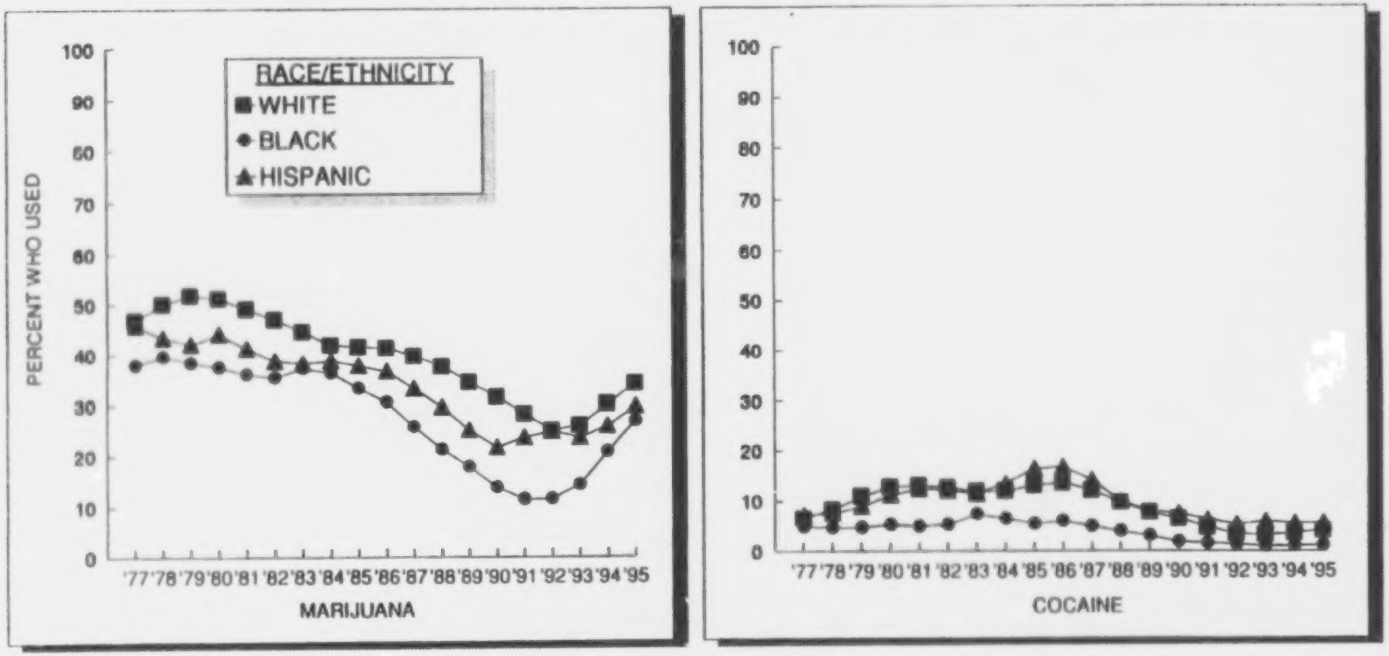
- ***Cigarette smoking*** shows differential trends that are quite interesting. All three groups had daily smoking rates that were not dramatically different in the late 1970s (Figure 17b). All three groups showed declines between 1977 and 1981, with the declines somewhat stronger for blacks and Hispanics, leaving whites with clearly the highest smoking rates by 1981. Since then, blacks have shown a consistent and continuing decline through 1993 while rates among whites remained quite level. By 1991 blacks had a rate of daily smoking that was one-fourth that of whites, whose smoking rates changed hardly at all between 1981 and 1992. Since 1992 current (30-day) smoking is up among all three ethnic groups in all three grades (except among twelfth grade Hispanics, whose use has been fairly flat).

FIGURE 17a

Trends in Annual Prevalence of Marijuana and Cocaine Use for Twelfth Graders

by Race/Ethnicity

(Two-year moving average*)



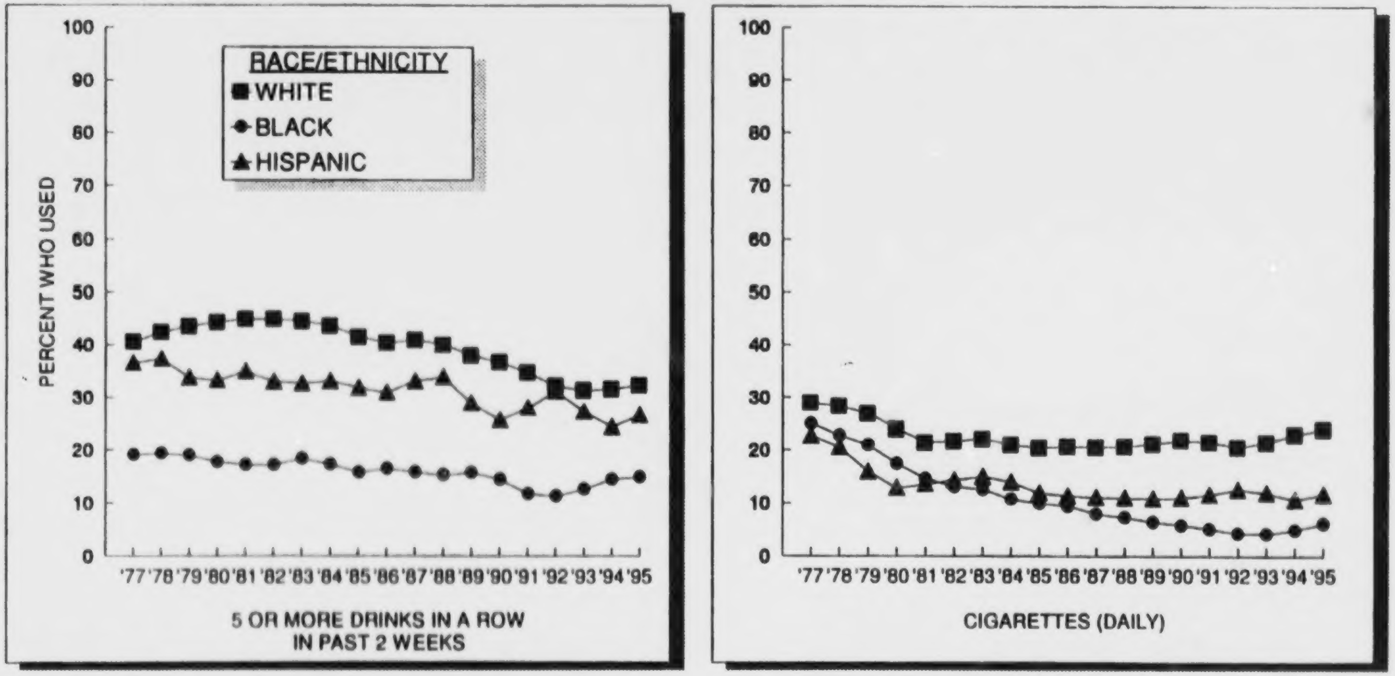
*Each point plotted here is the mean of the specified year and the previous year.

FIGURE 17b

Trends in Prevalence of 5 or More Drinks in a Row in the Past 2 Weeks and Daily Use of Cigarettes for Twelfth Graders

by Race/Ethnicity

(Two-year moving average*)



*Each point plotted here is the mean of the specified year and the previous year.

Chapter 6

USE AT EARLIER GRADE LEVELS

Knowing the age at which young people begin to use various drugs is important, in part because it provides a guide to the timing and nature of interventions in the school, the home, and the larger society. Any such intervention is likely to be considerably less effective in preventing drug use if it is administered after the ages of peak initiation. It also may be less effective if it substantially precedes this decision-making period. Not all drugs are begun at the same age; rather, a certain progression tends to occur, beginning with the drugs which are seen as least risky, deviant, or illegal, and progressing toward those that are more so.

Age of initiation has been ascertained from seniors by a set of questions which have been included in the study since its inception in 1975. The results have been used in this series of monographs to give a retrospective view of trends in lifetime prevalence at earlier grade levels. Because of the long time period these trends span, we continue to include here the series of figures based on seniors' responses, even though we now measure drug usage rates directly from eighth and tenth graders. This year, for the first time, we have included figures for the eighth graders.

One would not necessarily expect today's eighth, tenth, and twelfth graders to give the same retrospective prevalence rate for a drug (say by sixth grade), since there are a number of differences among the three groups. These differences can be summarized as follows:

(1) The lower grades contain the eventual school dropouts, while twelfth grade does not. The lower grades also have lower absentee rates. For any given year both factors should cause the prevalence rates derived directly from eighth graders to be higher for a given calendar year than the retrospective prevalence rates for eighth grade derived from the same cohort of students in tenth grade or in twelfth grade.

(2) Each class cohort was in eighth grade in a different year, so any broad secular (historical) trend in the use of a drug could contribute to differences in their reports of their experiences when they were in eighth grade.

(3) The eighth, tenth, and twelfth graders are in three different class cohorts, so any lasting differences among cohorts could contribute to a difference at any grade level, including eighth grade.

There are also two types of method artifacts which could explain observed differences in the retrospective reports of use by eighth, tenth, and twelfth graders:

(4) Memory errors are more likely for the older respondents. They may forget that an event ever occurred (although this is unlikely for use of drugs), or they may not accurately remember when an event occurred. For example, an event may be remembered as having occurred more recently than it actually did.

(5) The definition of the eligible event may change as a respondent gets older. Thus, an older student may be less likely to include an occasion of taking a sip from someone's beer as an occasion of alcohol use, or an older student may be more likely to exclude (appropriately) an over-the-counter stimulant when asked about amphetamine use. While we attempt to ask the questions as clearly as possible, some of these drug definitions are fairly subtle, and are likely to be more difficult for the younger respondents. Indeed, we have omitted from this report eighth and tenth graders' data on their use of barbiturates and other opiates precisely because we judge them to contain erroneous information.

INCIDENCE OF USE BY GRADE LEVEL

Tables 17a through 17c give the retrospective initiation as reported by eighth, tenth, and twelfth graders, respectively. Obviously, the older students have a longer age span over which they can report initiation. Table 17d puts together the retrospective initiation rates from all three sets of respondents in order to facilitate a comparison of reported initiation rates by particular grades.

- Eighth, tenth, and twelfth grade students all report very low usage rates (below 1%) by the end of sixth grade for ***crack, cocaine powder, heroin*** and ***steroids***. Fewer than 2% reported any use of ***hallucinogens, LSD, cocaine***, or ***tranquilizers*** and 4% or less reported any use of ***stimulants***. ***Marijuana*** was tried by no more than 5.3% of youngsters by the end of sixth grade. These findings are consistent with past reports based on the retrospective data from twelfth graders, providing greater confidence in those retrospective reports.

- In general, the legal drugs (alcohol and tobacco) are the most likely to be initiated at an early age, with ***inhalants*** and ***marijuana*** likely to come next.

- Based on the data from eighth graders (Table 17a), the peak ages for initiation of ***cigarette*** smoking appear to be in the sixth and seventh grades (24%)—or between ages 11 and 12—but with a considerable number initiating smoking even earlier. In fact, 17% of the 1995 eighth grade respondents reported having their first cigarette by fifth grade. ***Daily smoking*** appears to develop primarily in grades eight through eleven.

  Because educational attainment is very highly correlated with smoking, the differential inclusion of eventual dropouts could account for most of the difference between sixth grade smoking rates derived from eighth graders (29%) and those derived from twelfth graders (17%).

TABLE 17a

Incidence of Use for Various Types of Drugs, by Grade
Eighth Graders, 1995

(Entries are percentages)

Grade in which drug was first used:	Marijuana	Inhalants	Hallucinogens	LSD	Cocaine	Crack	Coke Powder	Heroin	Stimulants	Tranquilizers	Alcohol	Been Drunk	Cigarettes	Cigarettes (Daily)*	Smokeless Tobacco	Steroids
4th	0.9	3.9	0.3	0.3	0.3	0.1	0.2	0.1	0.6	0.4	9.5	1.5	9.3	0.5	3.5	0.2
5th	1.1	2.9	0.1	0.1	0.3	0.1	0.2	0.1	0.6	0.4	7.9	1.6	8.1	1.0	2.6	0.2
6th	3.3	4.8	0.8	0.6	0.5	0.4	0.4	0.4	2.1	0.6	12.2	4.7	11.1	2.4	4.0	0.5
7th	7.4	6.1	1.7	1.6	1.4	1.0	1.1	0.8	4.7	1.8	15.6	9.1	12.4	4.3	6.5	0.6
8th	7.3	3.9	2.2	1.9	1.7	1.0	1.5	0.8	5.1	1.4	9.4	8.4	5.6	3.5	3.3	0.6
Never used	80.1	78.4	94.8	95.6	95.8	97.3	96.6	97.7	86.9	95.5	45.5	74.7	53.6	88.4	80.0	98.0

NOTES: All drugs were asked about in both forms except for the following: hallucinogens, LSD, heroin, stimulants, tranquilizers, and smokeless tobacco, which were in one form only. The approximate N for both forms was 14,800.

SOURCE: The Monitoring the Future Study, the University of Michigan.

*Data based on the percent of regular smokers (ever).

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TABLE 17b

Incidence of Use for Various Types of Drugs, by Grade
Tenth Graders, 1995

(Entries are percentages)

Grade in which drug was first used:	Marijuana	Inhalants	Hallucinogens	LSD	Cocaine	Crack	Coke Powder	Heroin	Stimulants	Tranquilizers	Alcohol	Been Drunk	Cigarettes	Cigarettes (Daily)*	Smokeless Tobacco	Steroids
4th	0.5	2.1	0.1	0.1	0.1	0.0	0.1	0.1	0.2	0.2	5.5	1.1	7.3	0.4	2.8	0.1
5th	0.6	1.3	0.0	0.0	0.1	0.0	0.1	0.0	0.2	0.1	3.6	1.0	6.0	0.6	1.9	0.0
6th	1.3	2.1	0.2	0.1	0.1	0.1	0.1	0.0	0.5	0.3	7.0	2.5	8.1	1.4	2.8	0.0
7th	3.5	3.6	0.7	0.4	0.4	0.3	0.4	0.1	2.2	0.8	12.3	6.4	11.0	3.0	4.3	0.1
8th	7.3	3.9	1.4	1.3	0.7	0.5	0.6	0.4	3.6	1.1	18.3	11.2	10.7	4.4	5.7	0.3
9th	13.5	4.0	3.7	3.4	2.0	1.0	1.7	0.5	6.9	2.1	17.1	16.6	10.7	6.4	6.8	0.9
10th	7.4	2.1	3.3	3.0	1.6	0.8	1.3	0.5	3.8	1.6	6.8	8.1	3.8	3.8	3.4	0.5
Never used	65.9	81.0	90.7	91.6	95.0	97.2	95.6	98.3	82.6	94.0	29.5	53.1	42.4	80.0	72.4	98.0

NOTES: All drugs were asked about in both forms except for the following: hallucinogens, LSD, heroin, stimulants, tranquilizers, and smokeless tobacco, which were in one form only. The approximate N for both forms was 15,800.

SOURCE: The Monitoring the Future Study, the University of Michigan.

*Data based on percent of regular smokers (ever).

TABLE 17c

Incidence of Use for Various Types of Drugs, by Grade
Twelfth Graders, 1995

(Entries are percentages)

Grade in which drug was first used:	Marijuana	Inhalants[a]	Amyl/Butyl Nitrites	Hallucinogens[a]	LSD	PCP	Cocaine	Crack	Other Forms of Cocaine	Heroin	Other Opiates	Stimulants[b]	Barbiturates	Methaqualone	Tranquilizers	Alcohol	Been Drunk	Cigarettes	Cigarettes (Daily)[c]	Smokeless Tobacco	Steroids
6th	1.3	1.9	0.1	0.3	0.2	0.1	0.3	0.2	0.2	0.2	0.7	0.5	0.4	0.2	0.4	9.8	3.0	17.3	1.4	5.6	0.1
7-8th	4.8	3.8	0.1	1.0	1.0	0.2	0.5	0.2	0.4	0.1	0.9	1.9	1.0	0.2	0.7	20.1	12.7	18.2	4.9	7.0	0.3
9th	8.0	3.4	0.1	2.2	2.2	0.3	0.5	0.3	0.4	0.2	1.2	2.9	1.4	0.2	1.1	19.5	16.0	11.0	5.4	5.3	0.3
10th	9.4	3.4	0.3	3.0	2.8	0.8	1.1	0.5	0.9	0.2	1.1	3.0	1.4	0.2	1.4	14.6	13.7	8.5	4.9	5.4	0.4
11th	10.8	2.7	0.4	3.1	2.7	0.7	1.6	1.0	1.7	0.3	1.9	3.9	1.7	0.2	1.9	11.2	11.8	6.0	5.0	5.1	0.4
12th	7.4	2.2	0.5	3.1	2.7	0.7	1.9	0.8	1.4	0.5	1.5	3.1	1.5	0.2	1.6	5.4	5.9	3.3	2.5	2.4	0.9
Never used	58.3	82.6	98.5	87.3	88.3	97.3	94.0	97.0	94.9	98.4	92.8	84.7	92.6	98.8	92.9	19.3	36.8	35.8	76.0	69.1	97.7

NOTES: Percentages are based on three of the six forms (N = approximately 6,800) except for cocaine and crack, which are based on four of the six forms (N = approximately 9,100), inhalants, other forms of cocaine, smokeless tobacco and steroids, which are based on two of the six forms (N = approximately 4,500), and PCP and nitrites, which are based on one of the six forms (N = approximately 2,300).

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Unadjusted for known underreporting of certain drugs. See text for details.

[b] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[c] Data based on percent of regular smokers (ever).

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TABLE 17d

Incidence of Use for Various Types of Drugs: A Comparison of Responses from Eighth, Tenth, and Twelfth Graders, 1995

(Entries are percentages)

Grade level of respondents:	Marijuana	Inhalants[a]	Hallucinogens[a]	LSD	Cocaine	Heroin	Stimulants[b]	Tranquilizers	Alcohol	Been Drunk	Cigarettes	Cigarettes (Daily)[c]
	Percent who used by end of 6th grade											
8th	5.3	11.6	1.2	1.0	1.1	0.6	3.3	1.4	29.6	7.8	28.5	3.9
10th	2.4	5.5	0.3	0.2	0.3	0.1	0.9	0.6	16.1	4.6	21.4	2.4
12th	1.3	1.9	0.3	0.2	0.3	0.2	0.5	0.4	9.8	3.0	17.3	1.4
	Percent who used by end of 8th grade											
8th	19.9	21.6	5.2	4.4	4.2	2.3	13.1	4.5	54.5	25.3	46.4	11.6
10th	13.2	13.0	2.4	1.9	1.4	0.6	6.7	2.5	46.7	22.2	43.1	9.8
12th	6.1	5.7	1.3	1.2	0.8	0.3	2.4	1.1	29.9	15.7	35.5	6.3
	Percent who used by end of 10th grade											
10th	34.1	19.0	9.3	8.4	5.0	1.7	17.4	6.0	70.5	46.9	57.6	20.0
12th	23.5	12.5	6.5	6.2	2.4	0.7	8.3	3.6	64.0	45.4	55.0	16.6

NOTES: For 8th and 10th graders, all drugs were asked about in both forms except for the following: hallucinogens, LSD, heroin, stimulants, tranquilizers, and smokeless tobacco, which were in one form only. The approximate N for both forms for 8th graders was 14,800 and for 10th graders was 15,800. For 12th graders, percentages are based on three of the six forms (N = approximately 6,800) except for cocaine and crack, which are based on four of the six forms (N = approximately 9,100), inhalants, other forms of cocaine, smokeless tobacco, and steroids, which are based on two of six forms (N = approximately 4,500), and PCP and nitrites, which are based on one of six forms (N = approximately 2,300).

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Unadjusted for underreporting of certain drugs. See text for details.

[b] Based on the data from the revised question, which attempts to exclude the inappropriate reporting of non-prescription stimulants.

[c] Data based on percent of regular smokers (ever).

- ***Smokeless tobacco*** use also tends to be initiated quite early, as Tables 17a, 17b, and 17c illustrate.

- ***Inhalant*** use tends to occur early, with peak initiation rates in grades 6 through 9. Among eighth graders in 1995, some 7% had already tried inhalants by the end of the fifth grade.

  Of the illicit drugs, only ***inhalants*** show very large differences by age of reporting. While only 1.9% of the twelfth graders report having used inhalants by the end of sixth grade, a much higher 11.6% of the eighth graders report such use by sixth grade. Although any of the explanations offered earlier might explain these differences, we believe that early inhalant use may be associated with dropping out, and also that the use of the types of inhalants generally used at younger ages (glues, aerosols, butane) has been on the rise (i.e., that there has been a secular trend in use).

- For ***alcohol***, we are inclined to rely on the data from seniors, which suggest that the peak ages of initiation are in seventh through ninth grade. The first occasion of ***drunkenness*** is most likely to occur in grades 7 through 10. Still, some 8% of 1995 eighth graders reported having been drunk by the end of sixth grade.

  Alcohol use by the end of sixth grade is retrospectively reported by 30% of the 1995 eighth graders, but by only 10% of the 1995 twelfth graders. Several factors probably contribute to the difference. One is that eventual dropouts are probably much more likely than average to drink at an early age. Another is related to the issue of what is meant by "first use." The questions for all grades refer specifically to the first use of "an alcoholic beverage–more than just a few sips," but it is likely that the older students (twelfth graders) are more inclined to report only use that is not adult-approved, and not to count having less than a glass with parents or for religious purposes. Younger students (eighth graders) are less likely to have had a full drink or more, and may be more likely to report first use of a limited amount. Thus, the eighth grade data probably exaggerate the phenomenon of having more than a few sips, whereas the twelfth grade data may understate it. Note that the data from the three groups of respondents tend to converge as we ask about lifetime alcohol use by the time they reach higher grade levels.

- A fair number from all three grade levels indicate having ***gotten drunk*** by the end of sixth grade (between 3% and 8%, see Table 17d), and much of the difference may be attributable to the differential inclusion of eventual dropouts.

- For ***marijuana*** the highest initiation rates are seen in grades 9 through 11, though by the end of eighth grade 20% of the 1995 eighth graders reported having already tried marijuana.

- The illicit drugs other than marijuana and inhalants generally do not reach peak initiation rates until the high school years (grades 10 through 12), consistent with the progression model noted earlier. ***Stimulants***, specifically, show a high initiation rate in grades 9 through 12.

- Of those who say they have used a drug by twelfth grade, the proportion saying that they initiated use *prior to grade 10* is as follows: ***inhalants*** (52%), ***methaqualone*** (50%), ***opiates other than heroin*** (39%), ***amphetamines*** (35%), ***marijuana*** (34%), ***tranquilizers*** (31%), ***steroids*** (30%), ***LSD*** (29%), ***hallucinogens*** (28%), ***crack*** (23%), ***PCP*** and ***cocaine*** (22%), ***nitrites*** and ***other forms of cocaine*** (20%).

TRENDS IN USE AT EARLIER GRADE LEVELS

Using the retrospective data provided by members of each senior class concerning their grade at first use, it has been possible to reconstruct lifetime prevalence trend curves for lower grade levels over many earlier years. Obviously, data from school dropouts are not included in any of the curves. Figures 18a through 18y show the reconstructed lifetime prevalence curves for earlier grade levels for a number of drugs. When data are available, starting with Figure 18d, there is also a panel showing retrospective prevalence curves based on data gathered from eighth graders, who have been included in the study since 1991[29]. These curves *would* include data from most of the eventual dropouts.

- Figure 18a provides the trends at each grade level for lifetime use of ***any illicit drug***. It shows that for all grade levels there was a continuous increase in illicit drug involvement through the 1970s. Fortunately, the increase for use prior to seventh grade was quite small; the retrospective rate in 1969 (based on the class of 1975) for sixth grade or below was 1.1%. But the figure increased modestly through 1978, leveled for a long time, and then declined in the late 1980s, from 3.5% in 1986 to 2.1% in 1989. The lines for the other grade levels all show much steeper upward slopes, followed by earlier and longer declines. For example, about 37% of tenth graders in 1973 had used some illicit drug compared to 52% by 1980. This statistic fell to 28% by 1991, before leveling.

- Most of the early increase in any illicit drug use was due to increasing proportions using marijuana. We know this from the results in Figure 18b showing trends for each grade level in the proportion having used

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[29] Note that the scale used in the graphs based on data from eighth graders is an expanded version of the scale used for twelfth graders (because the prevalence rates are generally lower). This tends to exaggerate changes in the eighth grade graphs relative to those in the twelfth grade graphs.

any illicit drug other than marijuana in their lifetime. Compared to Figure 18d for marijuana use, these trend lines are relatively flat throughout the 1970s and, if anything, began to taper off among ninth and tenth graders between 1975 and 1977. The biggest cause of the increases in these curves from 1978 to 1981 was the rise in reports of amphetamine use. As noted earlier, we suspect that at least some of this rise was artifactual. If amphetamine use is removed from the calculations, even greater stability is shown in the proportion using ***illicit drugs other than marijuana*** or ***amphetamines***. (See Figure 18c.)

- As can be seen in the top panel of Figure 18d, for the years covered across the decade of the 1970s, ***marijuana*** use rose steadily at all grade levels down through the seventh and eighth grades. Beginning in 1980, lifetime prevalence for marijuana began to decline in grades 9 through 12. Declines in grades 7-8 began a year later, in 1981.

  There was also some small increase in marijuana use during the 1970s at the elementary level, below seventh grade. Use by sixth grade or lower rose gradually from 0.6% for the class of 1975 (who were sixth graders in 1968-69) to a peak of 4.3% in the class of 1984 (who were sixth graders in 1977-78). Use began dropping thereafter and for the class of 1995 (who were sixth graders in 1989) was down to 1.3%. (The more up-to-date data from the 1995 eighth graders, which are not exactly comparable because of the inclusion of eventual dropouts, yield a prevalence estimate of 5.3% for these students when they were sixth graders in 1993.)

  Both the top and bottom panels of Figure 18d show the sharp increase in marijuana lifetime prevalence which began after 1991 in grades 6 through 11 and in 1992 in grade 12. The recent upturn in the use of any illicit drug index (Figure 18a) is due to the sharp increase in marijuana use (Figure 18d), although the proportions using any illicit drug other than marijuana (Figure 18b) has begun to rise modestly.

- Questions about age at first use for ***inhalants*** (unadjusted for the nitrites) were introduced in 1978. The retrospective trend curves (Figure 18e, top panel) suggest that during the mid-1970s, experience with inhalants decreased slightly for most grade levels and then began to rise. For the upper grade levels there was a continued rise, peaking with the classes of 1989 and 1990. The class of 1992 showed lower rates of initiation than its two predecessor classes at all grade levels, but the classes of 1993 and 1994 showed upward trends, followed by a dip in the class of 1995.

  In the lower grade levels (lower panel of Figure 18e) an upward trend began in 1992 for grades 7 and 8.

- Since grade-at-first-use data have been gathered for the ***nitrite inhalants*** beginning in 1979, limited retrospective data exist (Figure 18f). These do not show the long-term increase observed for the overall inhalant category. To the contrary, they show a substantial decline. Because their use level has gotten so low, their omission by some respondents from their reports of overall inhalant use has much less effect on the adjusted inhalants statistics (not graphed here) in recent years than it did when nitrite use was more common.

- Lifetime prevalence of ***hallucinogen*** use (unadjusted for under reporting of PCP) began declining among students at most grade levels in the mid-1970s (Figure 18g), and this gradual decline continued through the mid-1980s. Recent classes have shown some fluctuations, with an increase in initiation since around 1991.

- Trend curves for the specific hallucinogen ***LSD*** (Figure 18h) are similar in shape (though at lower rates, of course). Incidence rates for ***hallucinogens other than LSD*** (Figure 18i) declined from the mid-1970s through the late-1980s–particularly in the upper grades–before leveling. After 1991 use began to rise again in the grades for which data are available.

- There is less trend data for ***PCP***, since questions about grade of first use for this drug were not added until 1980. However, some interesting results emerge. A sharp downturn began around 1979 (see Figure 18j), and use declined substantially in all grade levels in which there had been appreciable use until 1987; since then there has been little change and the overall lifetime prevalence rates have remained low.

- ***Cocaine*** use at earlier grade levels is given in Figure 18k. One clear contrast to the marijuana pattern is that more than half of initiation into cocaine use takes place in grades 10 through 12 (rather than earlier, as has been the case for marijuana in most years). Further, most of the increase in cocaine experience between 1976 and 1980 occurred in grades 11 and 12, not below. After 1980, experience with cocaine generally remained fairly level until after 1986, when use among eleventh and twelfth graders began to show a significant decline. (There seemed to be less of a decline in the lower grades.) Lifetime prevalence rates leveled after 1991 in the upper grades, but began to rise in grades 6, 7, and 8 after 1990. (Even in the upper grades, active use of cocaine began to rise after 1992, although lifetime prevalence held steady.)

- Questions on age of first use for ***crack*** were first asked of the class of 1987. The retrospective data show crack initiation falling at all grade levels but the largest proportional declines occurred for grade levels 11 and 12 (see Figure 18l). Rates then leveled, and more recently rates began inching up. Rates are also up slightly in the seventh and eighth grades in recent years (lower panel of Figure 18l). ***Powder cocaine*** clearly fell more sharply than crack in the decline phase (see Figure 18m), again mostly in grade levels 11 and 12. The recent upturn in use of cocaine powder pretty much parallels the upturn in crack use.

- Though difficult to see in Figure 18n, the ***heroin*** lifetime prevalence figures for grade levels 9 through 12 all began declining in the mid-1970s, then leveled by 1979, and show no evidence of reversal until quite recently. Since about 1991 there has been an increase in lifetime prevalence at all grade levels above sixth grade.

- The lifetime prevalence of use of ***opiates other than heroin*** remained relatively flat at all grade levels from the mid-1970s through 1990, with the class of 1991 showing the first evidence of decline when they reached the upper grades (Figure 18o). Rates then leveled briefly before showing some increase in the class of 1995.

- The lifetime prevalence statistics for ***stimulants*** peaked briefly for grade levels 9 through 12 during the mid-1970s (see Figure 18p). However, they showed a sharp rise in the late 1970s at virtually all grade levels. As has been stated earlier, we believe that some, perhaps most, of this upturn was artifactual in the sense that nonprescription stimulants accounted for much of it. However, regardless of what acounted for it, beginning in 1979 a clear upward secular trend was observed across all cohorts and grade levels. The unadjusted data from the class of 1983 gave the first indication of a reversal of this trend. The adjusted data from the classes of 1982 through 1992 suggest that the use of stimulants leveled around 1982 and thereafter fell appreciably in grade levels 9 through 12. The classes of 1993 and 1994 showed an upturn in use in the upper grades, and the recent surveys of eighth and tenth graders show that some upturn has occurred among them after 1992. The lower panel of Figure 18p shows an increase at grade level 7, as well, which began after 1991.

- As the graphs for the two subclasses of sedatives—barbiturates and methaqualone—show, the trend lines have been quite different for them at earlier grade levels as well as in twelfth grade (see Figures 18q and 18r). Since about 1974 or 1975, lifetime prevalence of ***barbiturate*** use had fallen off sharply for the upper grade levels for all classes until the late 1970s; the lower grades showed some increase in the late 1970s (perhaps reflecting the advent of some look-alike drugs) and in the mid-1980s, all grades resumed the decline. In the late 1980s there was a leveling of the rates, followed by signs of an upturn by the mid-1990s in the upper grades.

  During the mid-1970s ***methaqualone*** use started to fall off at about the same time as barbiturate use in nearly all grade levels, but dropped rather little and then flattened (see Figure 18r). Between 1978 and 1981 there was a moderate resurgence in use in all grade levels; but after 1982 there was a sharp decline at all grade levels to near zero by the early 1990s.

- Lifetime prevalence of ***tranquilizer*** use (Figure 18s) also began to decline at all grade levels in the mid-1970s. It is noteworthy that, like sedatives, the overall decline in tranquilizer use has been considerably greater in the upper grade levels than the lower ones. Overall, it would appear that the tranquilizer trend lines have been following a similar course to those of barbiturates. So far, the curves are different only in that tranquilizer use continued a steady decline among eleventh and twelfth graders since 1977 (at least through the class of 1990), while the barbiturate use decline was interrupted for awhile in the early 1980s. Since 1992 there has been a slight increase in lifetime prevalence in grades 8 and above.

- The curves for lifetime prevalence of ***alcohol*** at grade levels 11 and 12 (Figure 18t) are very flat between the early 1970s and late 1980s, reflecting little change over more than a decade. More recent classes (1989-1993) showed slight declines, which ended with the class of 1993. By way of contrast, at the seventh through tenth grade levels, the lifetime prevalence curves show slight upward slopes in the early 1970s, indicating that, compared to the earlier cohorts (prior to the class of 1978), more recent classes initiated use at earlier ages. There was an even sharper upward trending in the mid-1980s, particularly at the seventh through eighth grade level. Thus, while 27% of the class of 1975 first used alcohol in eighth grade or earlier, 36% in the class of 1993 had done so. Females accounted for most of the change; 42% of females in the class of 1975 first used alcohol prior to tenth grade, compared to 53% in the class of 1993. Because all of the 1994 and 1995 data are based on the revised questions about alcohol use, these data are not strictly comparable to the earlier trend data. The revised data from the classes of 1993, 1994, and 1995 show some decrease for use by the end of eighth and tenth grades and a slight increase for use by the end of eleventh or twelfth grade. The lower panel of Figure 18t shows that the decline in lifetime prevalence from the late 1980s into the early 1990s was observable in grade levels 6 through 8, as well. The figure also shows a leveling in more recent years.

  Beginning with the class of 1986, we added questions asking seniors when did they first "drink enough to feel drunk or very high." Figure 18u, which give these results for having been drunk, shows fairly similar curves to those for lifetime prevalence of alcohol. Recent classes (1990-1993) show modest declines in this behavior at all grade levels above grade 6, although the decline appears to end with the class of 1994.

- Questions asking seniors "when did you smoke your first cigarette" were added in 1986. Figure 18v shows that for the class of 1986 the rate of ***cigarette smoking*** initiation was quite high by grade 6 (i.e., in

1980); over 20% had used cigarettes by sixth grade. In subsequent classes, this measure fell only slightly; 17% of the class of 1995 reported initiating cigarette smoking by sixth grade.

Substantial additional initiation occurs in grade levels 7 and 8: Over 40% of the class of 1986 had smoked a cigarette by the end of grade 8. This figure stands at 36% for the class of 1995. Initiation has declined very slightly for all grade levels in recent classes. In the early 1990s initiation of cigarette smoking leveled off in most grades for which we have the data and, indeed, began to rise when the class of 1995 passed through grades 9 and above. Eighth graders have also shown a gradual increase in initiation since they were first surveyed in 1991.

- Figure 18w presents the smoking measure contained in the study since its inception: lifetime prevalence of cigarette smoking on a daily basis. It shows that initiation to ***daily smoking*** was beginning to peak at the lower grade levels in the early to mid-1970s. This peaking did not become apparent among high school seniors until some years later. In essence, these changes reflect in large part cohort effects–changes which show up consistently across the age band for certain class cohorts. When differences in smoking at early ages are observed between cohorts, one would expect to see those differences endure, due to the highly addictive nature of nicotine. The classes of 1982 and 1983 showed some leveling of the previous decline, but the classes of 1984 through 1986 showed an encouraging resumption of the decline while they were in earlier grade levels. The data from the classes of 1987 and 1988 showed a pause in the decline; but the classes of 1989, 1990, and 1991 unfortunately showed a new *rise* in the lifetime prevalence of daily cigarette use as they passed through all grade levels. This rise is first discernible when these class cohorts were in eighth grade (between 1984 and 1987). The classes of 1993 and 1994 continued this rise after a brief pause in 1992. Also, the direct survey data from eighth and tenth graders show their current daily prevalence rates rising from 1991-1995.

- ***Smokeless tobacco*** use (Figure 18x) was first asked of seniors in the class of 1986. The questions about frequency of smokeless tobacco use were dropped from the 1990 and 1991 surveys of twelfth graders, and reinstated in 1992. The 1986-1989 survey questions were located near the end of one form; the questions in 1992 were located in a different form, and placed early in the form. As a result of the changed placement, the trends between the earlier version and the later version are not strictly comparable.

  Between 1986 and 1989, there was first a rise, and then a decline in use in all grades (retrospectively). Since 1992, the seniors have reported some declines at the earlier grade levels.

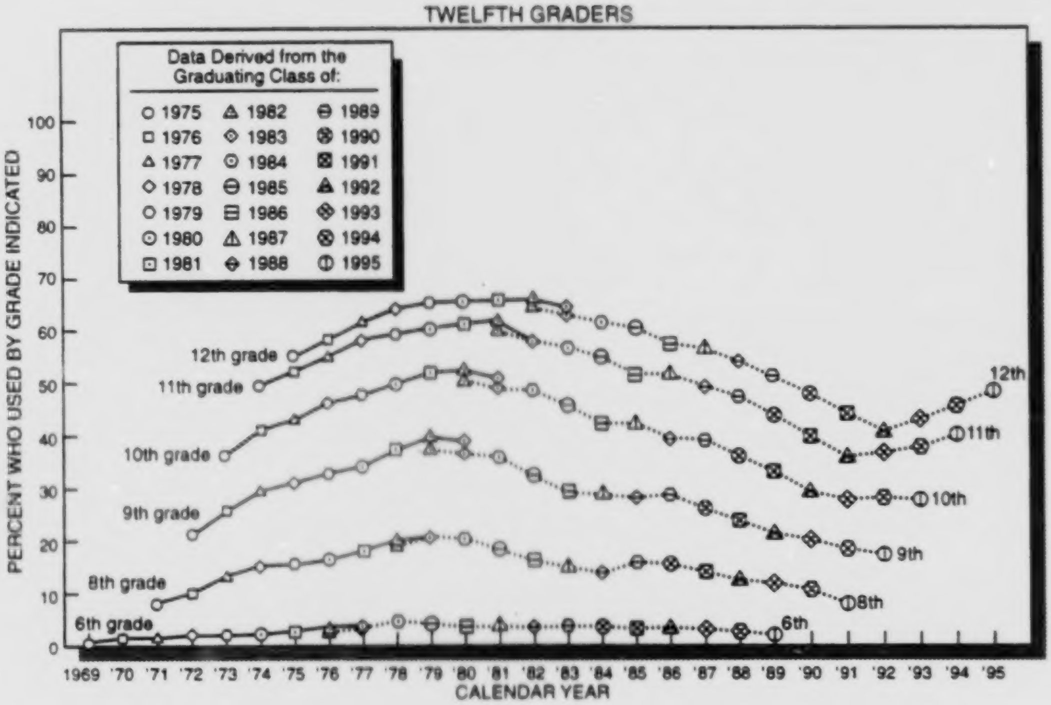
The lifetime rates reported from the eighth graders (bottom panel of Figure 18x) show a decline at all grade levels until about 1992, after which there were slight increases at the seventh and eighth grade levels.

- ***Steroid*** use was first asked of the class of 1989. The classes of 1989 through 1991 showed about a one-third drop in rates at grade level 9 and each higher grade (Figure 18y). Rates of initiation at all grade levels stabilized in 1992 and 1993, but rose very slightly in 1994.

FIGURE 18a

Use of Any Illicit Drug: Trends in Lifetime Prevalence for Earlier Grade Levels

Based on Retrospective Reports from Twelfth Graders

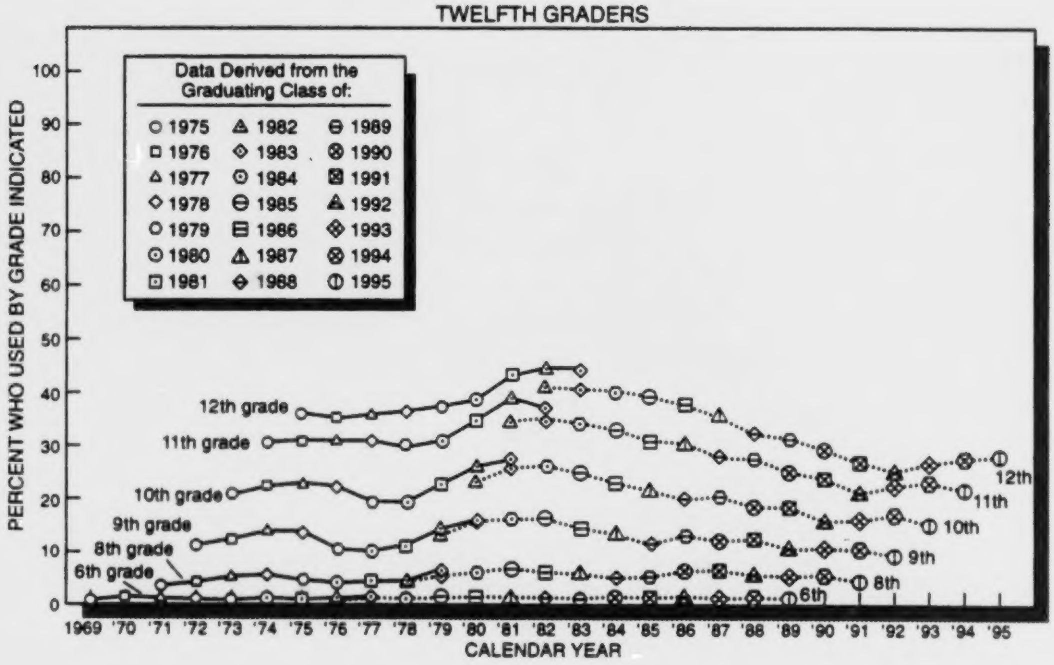


NOTE: The dotted lines connect percentages which result if non-prescription stimulants are excluded.

FIGURE 18b

Use of Any Illicit Drug Other Than Marijuana: Trends in Lifetime Prevalence for Earlier Grade Levels

Based on Retrospective Reports from Twelfth Graders



NOTE: The dotted lines connect percentages which result if non-prescription stimulants are excluded.

FIGURE 18c

Use of Any Illicit Drug Other Than Marijuana or Amphetamines: Trends in Lifetime Prevalence for Earlier Grade Levels

Based on Retrospective Reports from Twelfth Graders

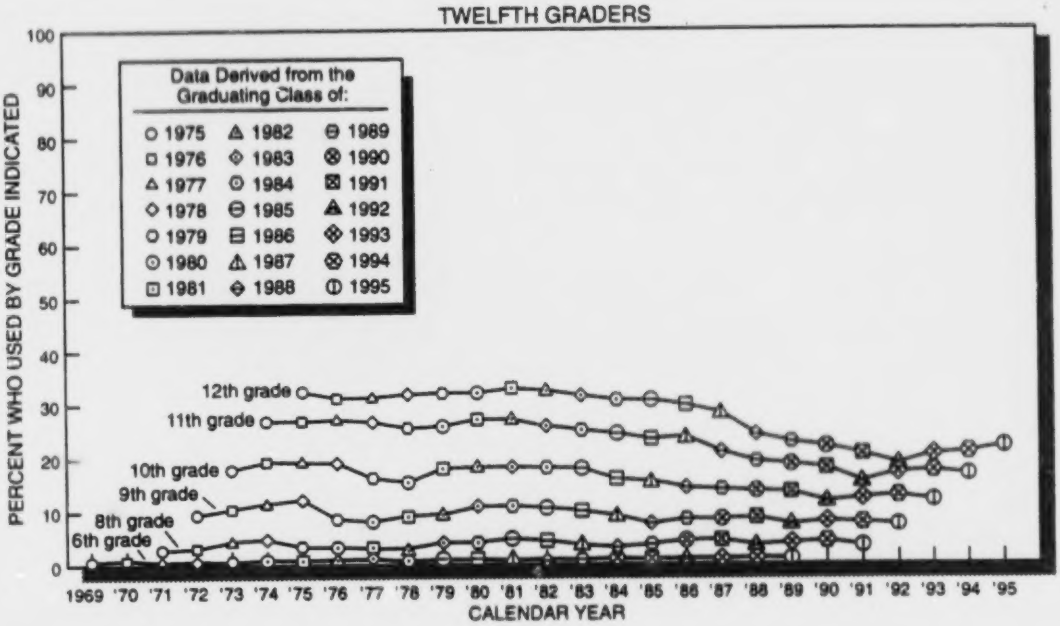


FIGURE 18d

Marijuana: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth and Eighth Graders

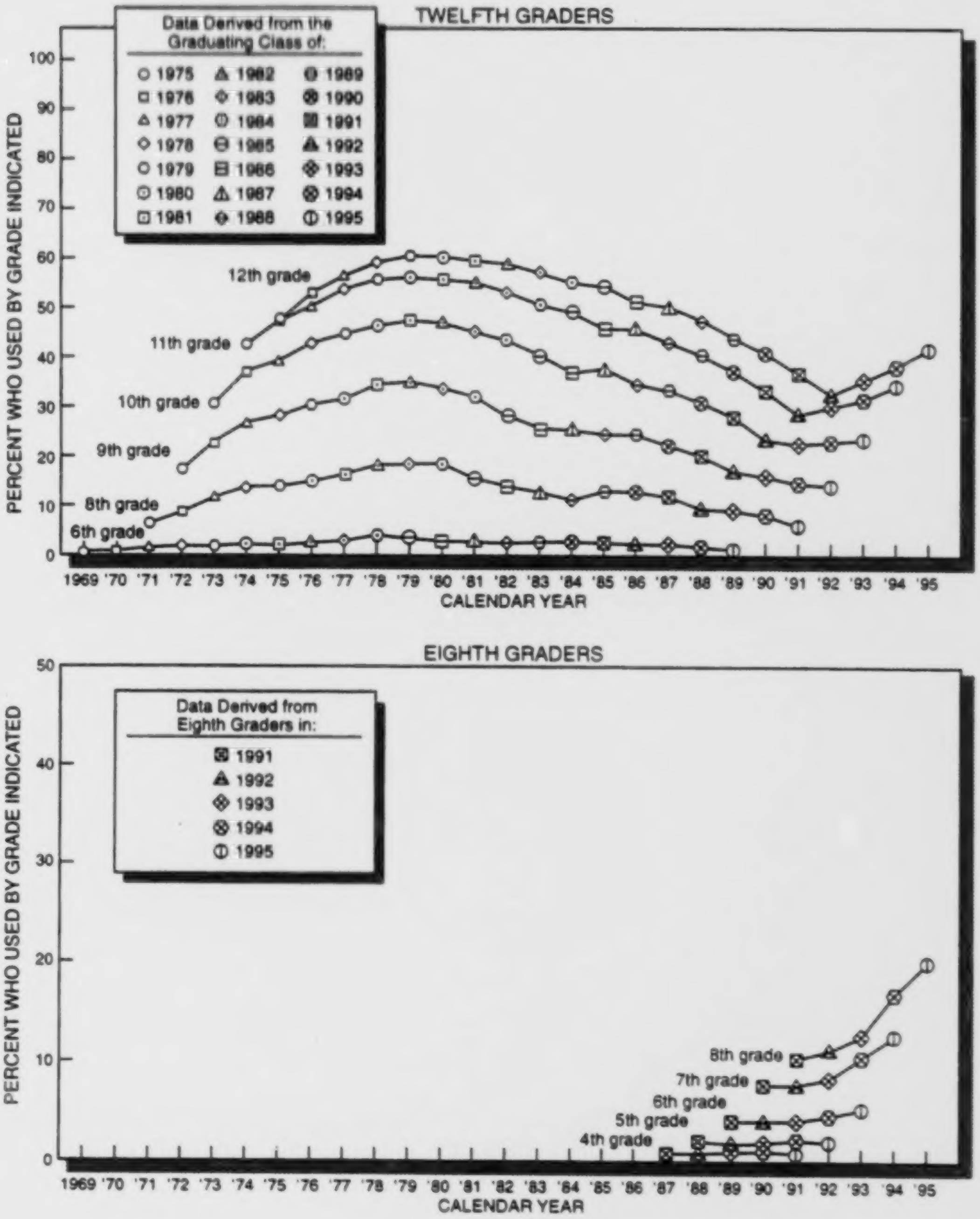


FIGURE 18e

Inhalants: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth and Eighth Graders

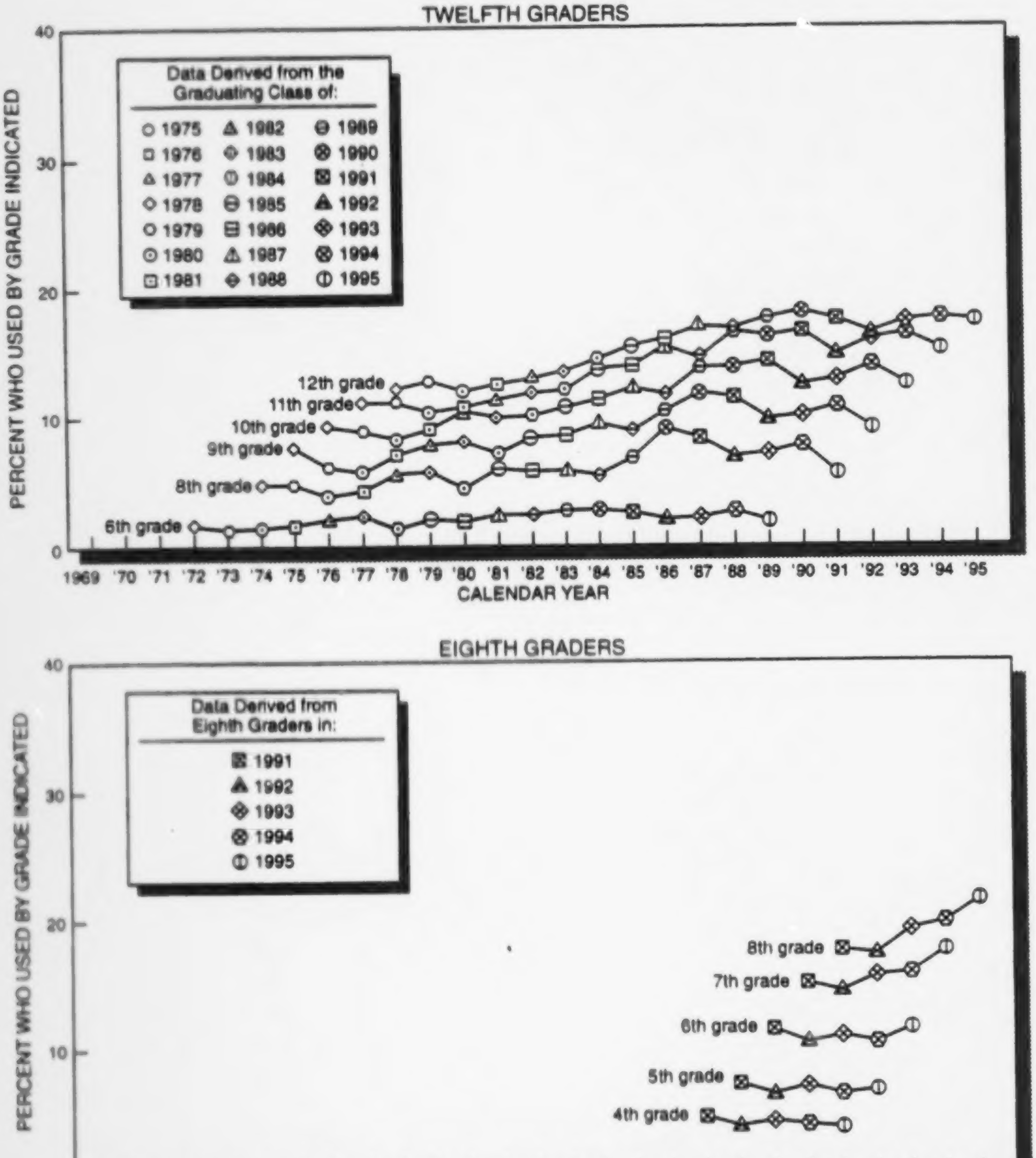


FIGURE 18f

Nitrites: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

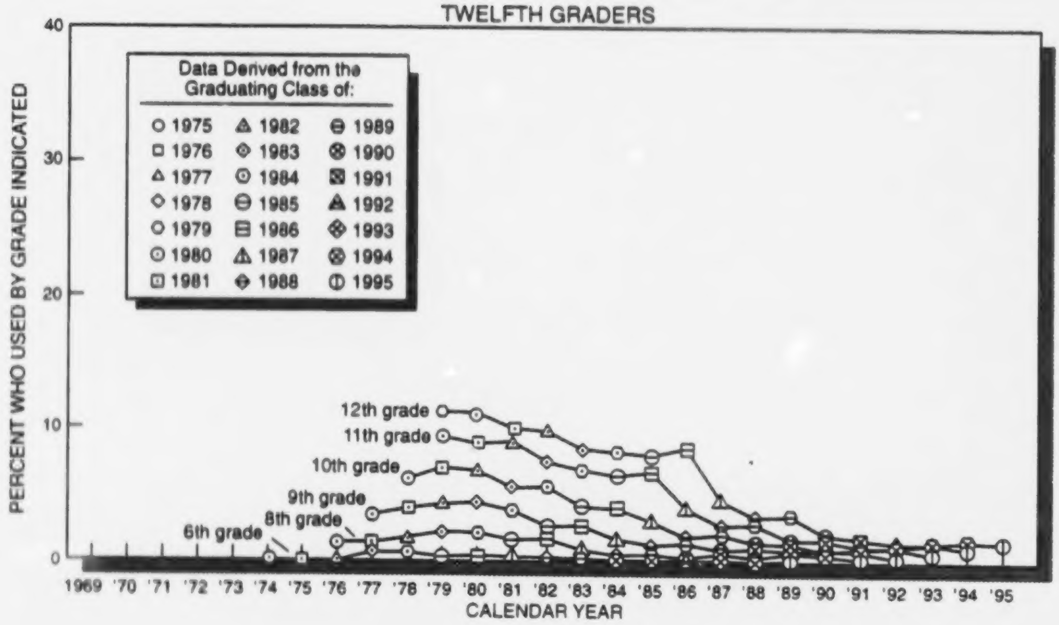


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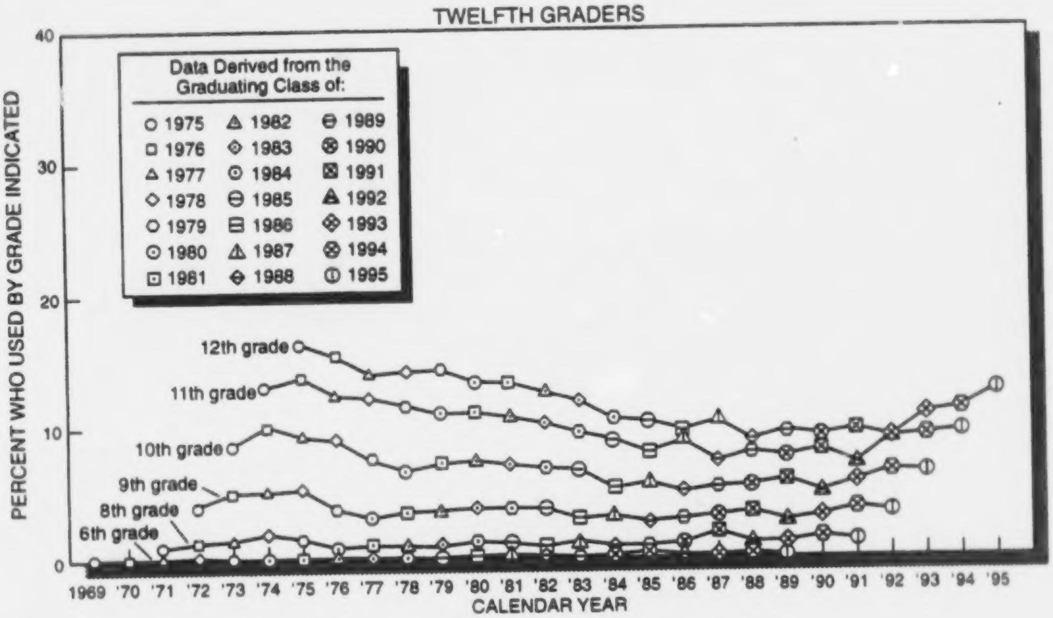
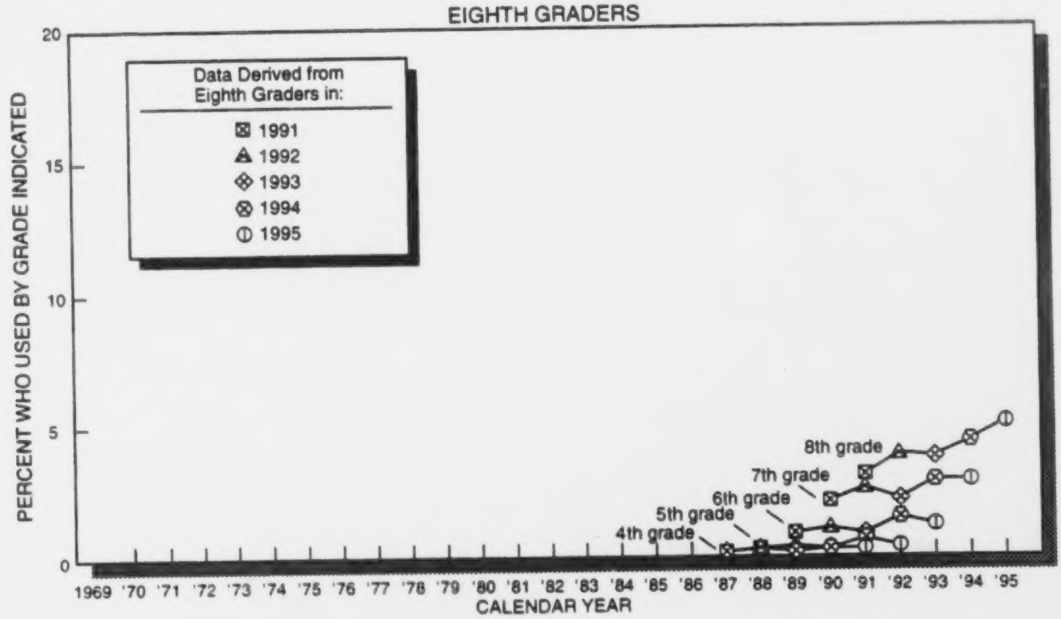
FIGURE 18g

Hallucinogens: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth and Eighth Graders





NOTE: Hallucinogens **unadjusted** for any underreporting of PCP are graphed here.

FIGURE 18h

LSD: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth and Eighth Graders

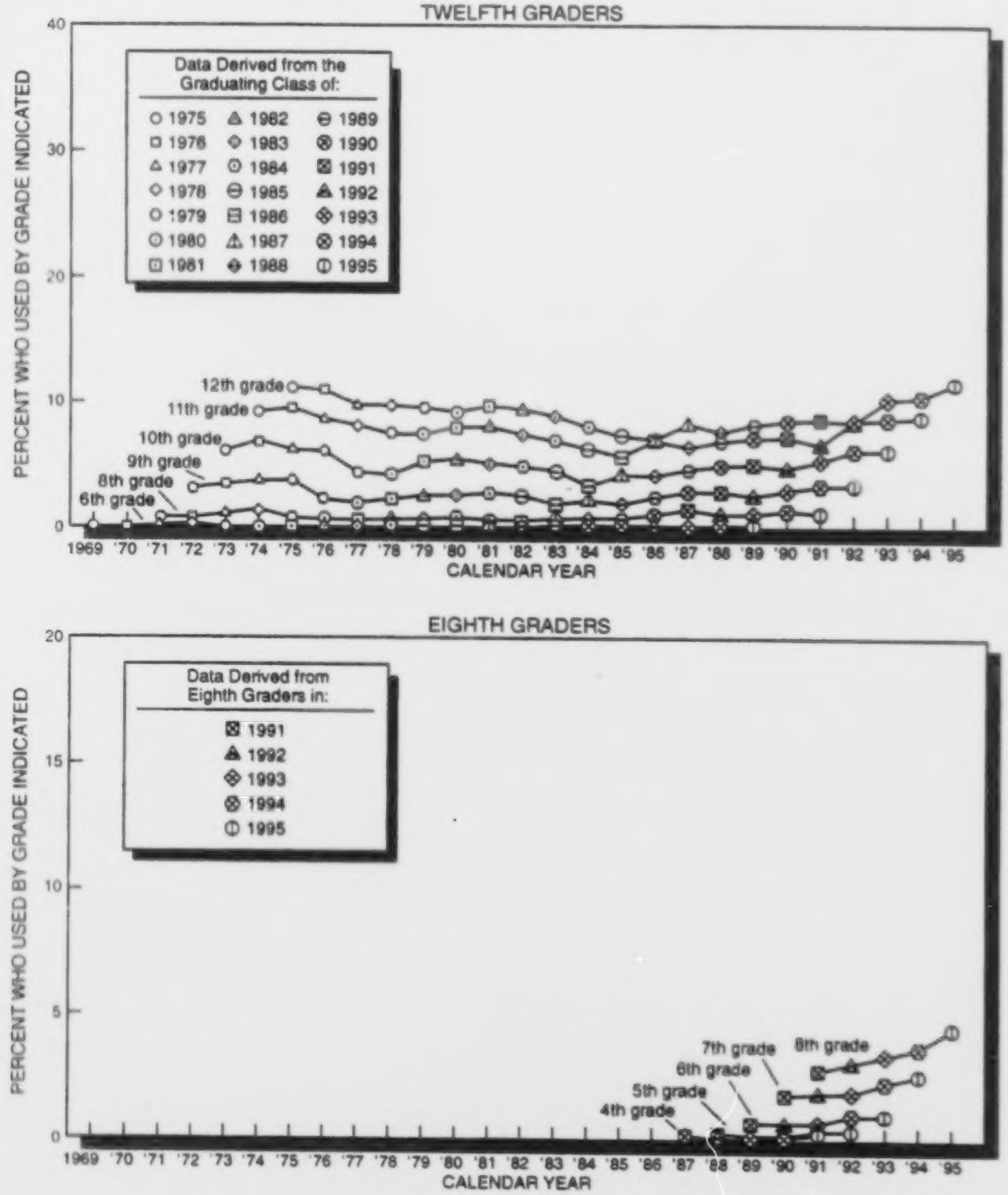


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FIGURE 18i

Hallucinogens Other Than LSD: Trends in Lifetime Prevalence for Earlier Grade Levels

Based on Retrospective Reports from Twelfth Graders

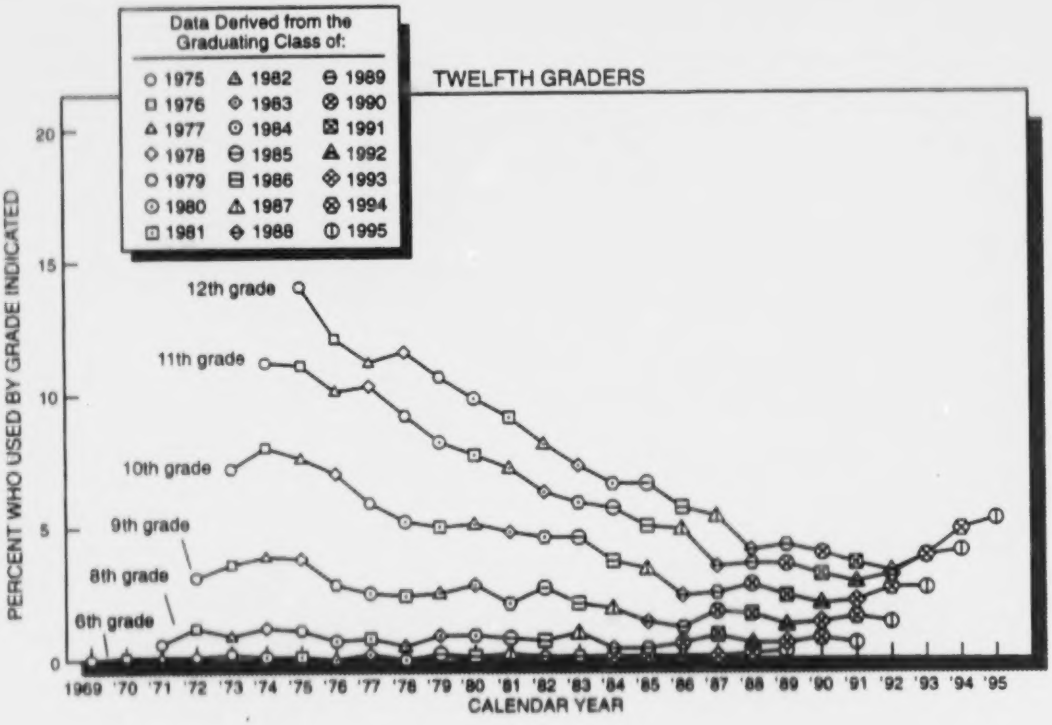


FIGURE 18j

PCP: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

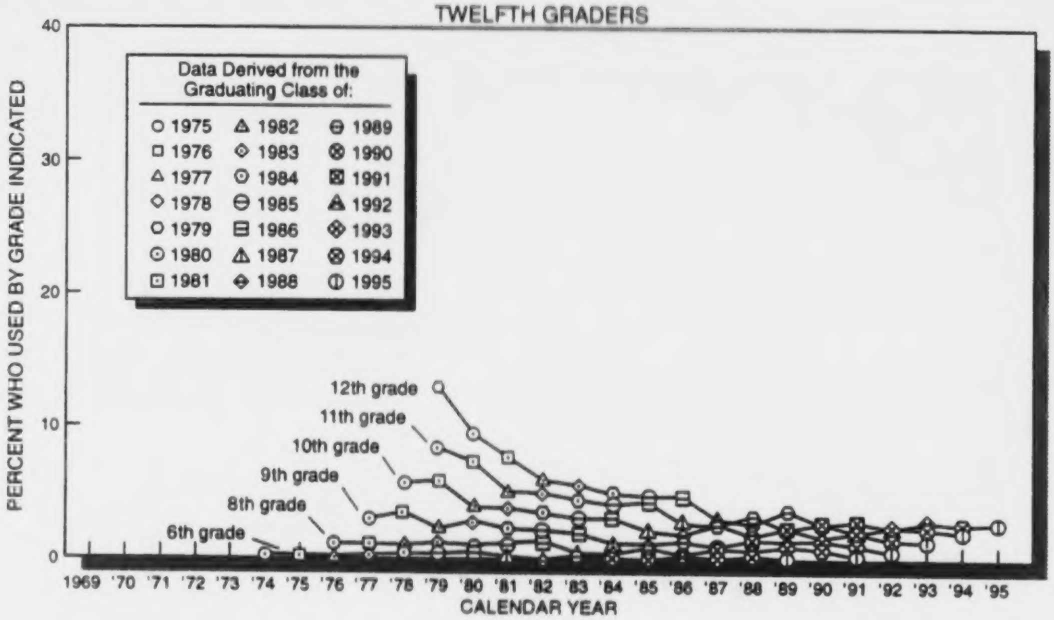


FIGURE 18k

Cocaine: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth and Eighth Graders

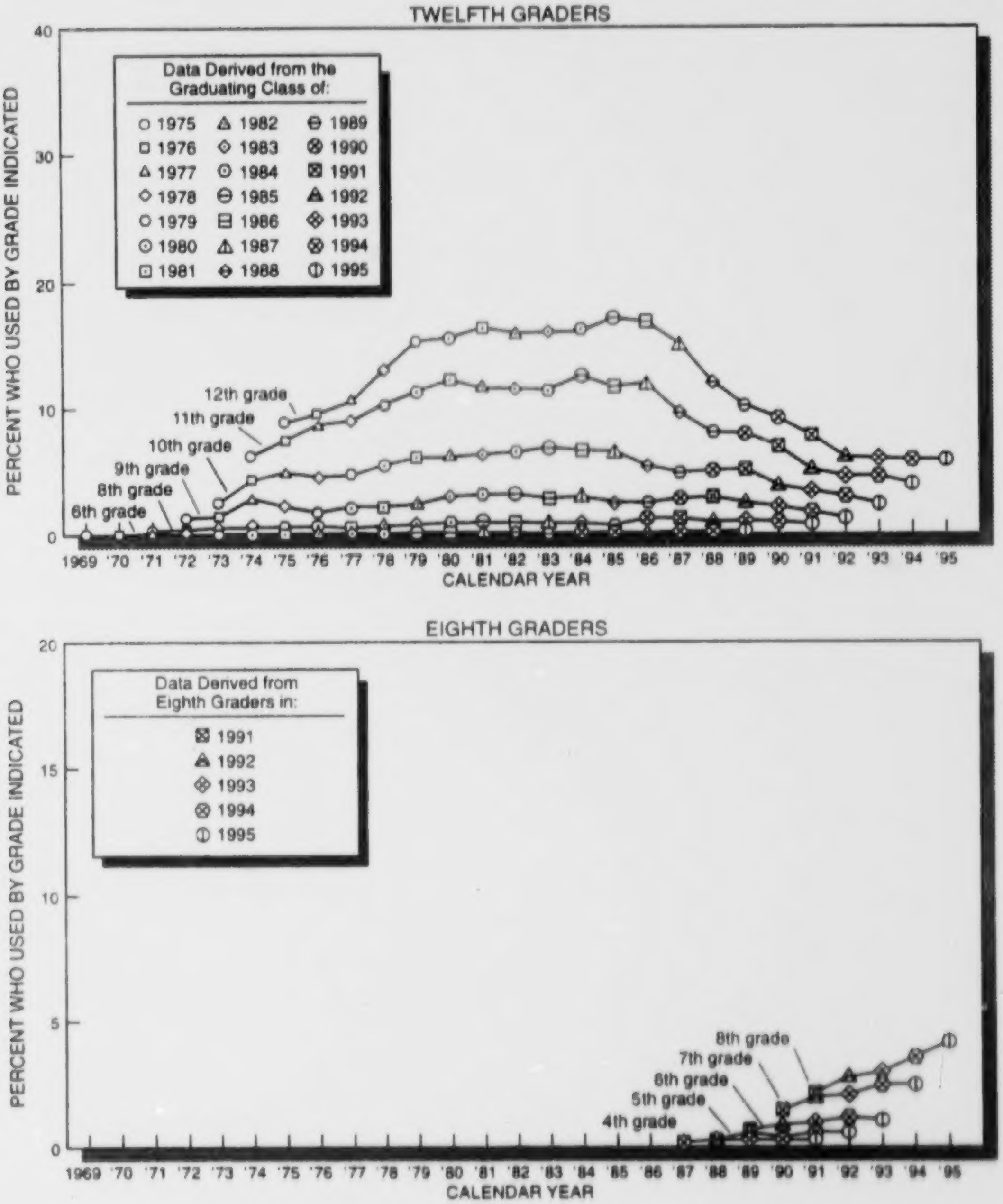


FIGURE 181

Crack Cocaine: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth and Eighth Graders

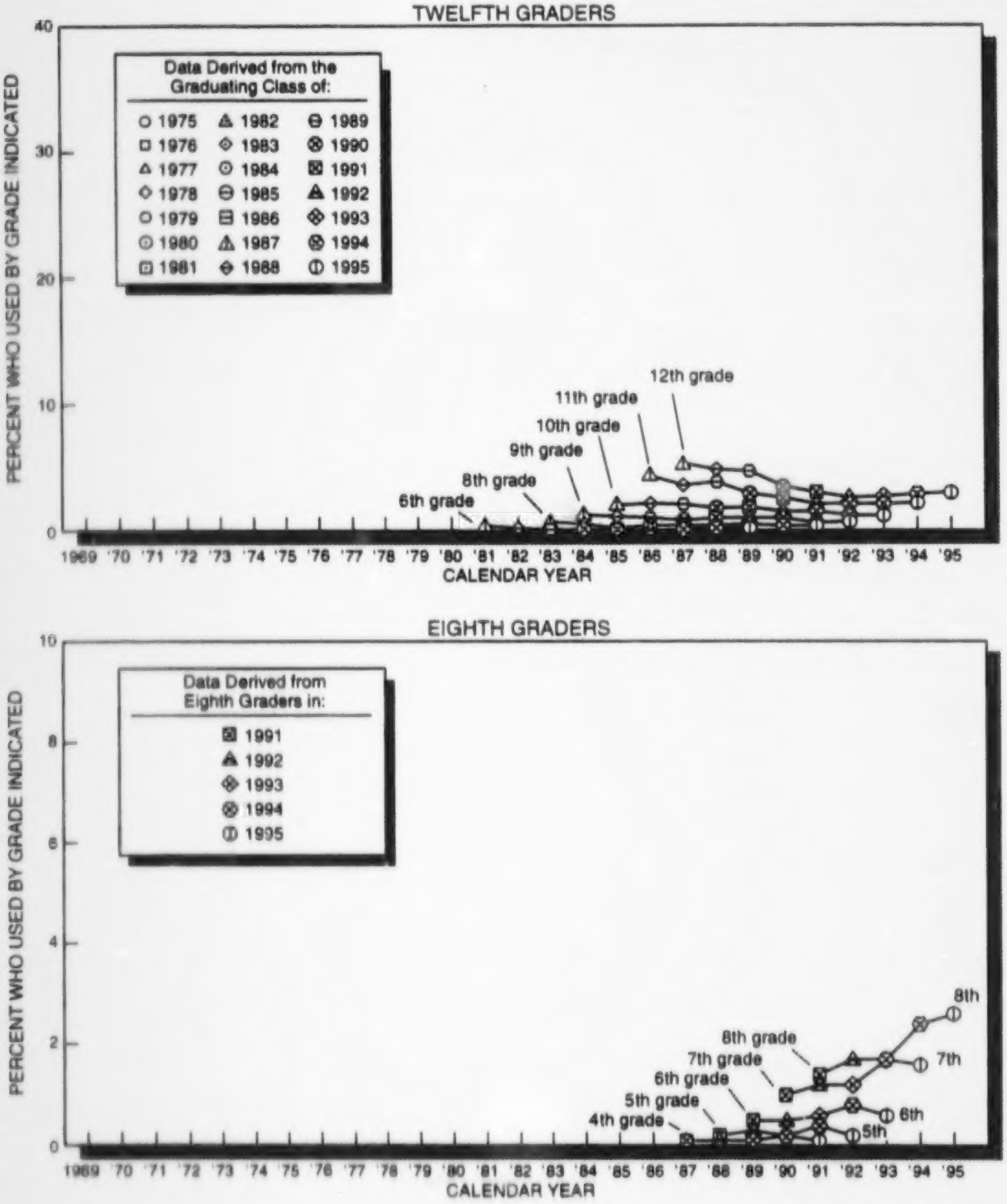
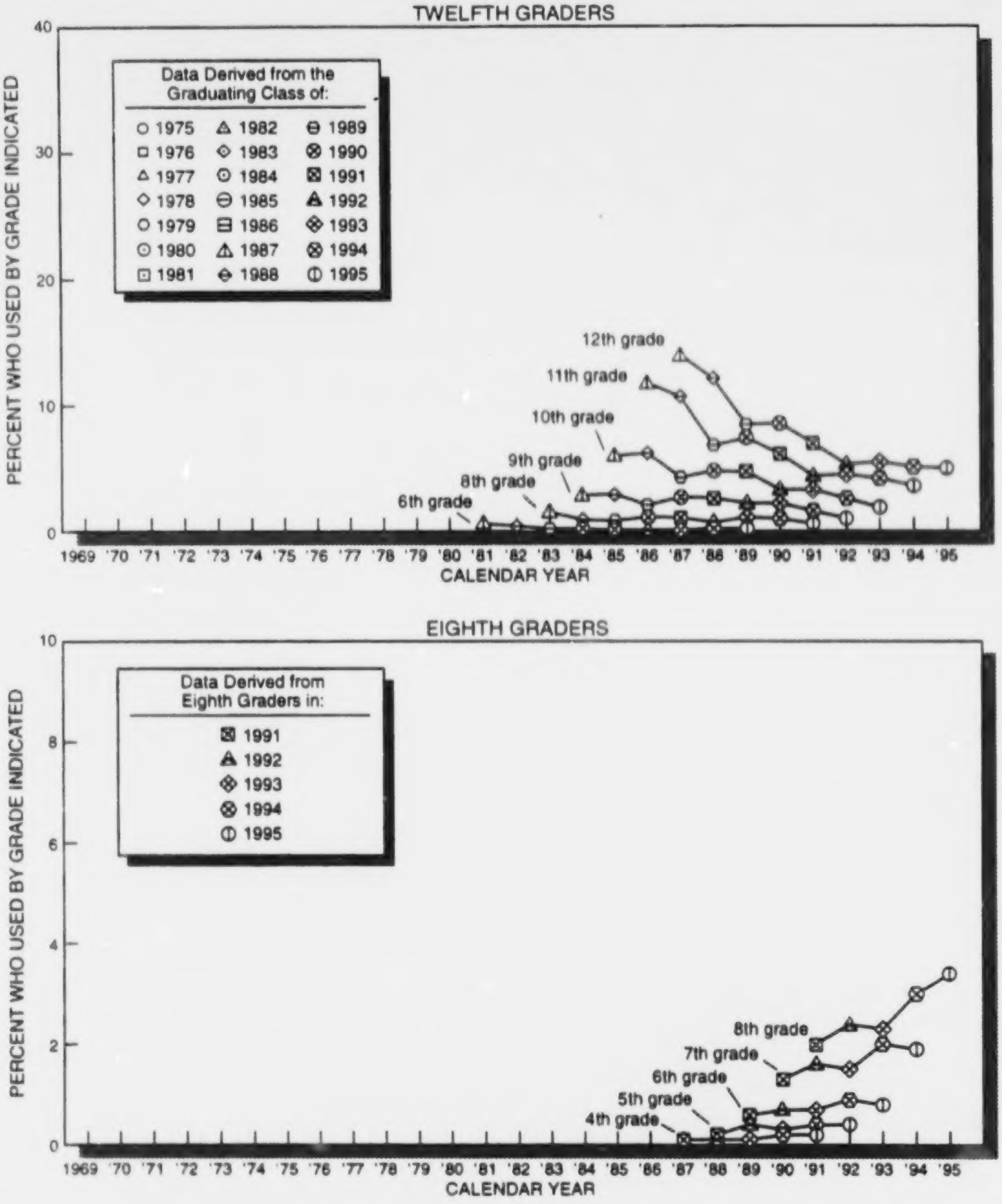


FIGURE 18m

Other Forms of Cocaine: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth and Eighth Graders



NOTE: The eighth grade question asked about cocaine in powder form.

FIGURE 18n

Heroin: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth and Eighth Graders

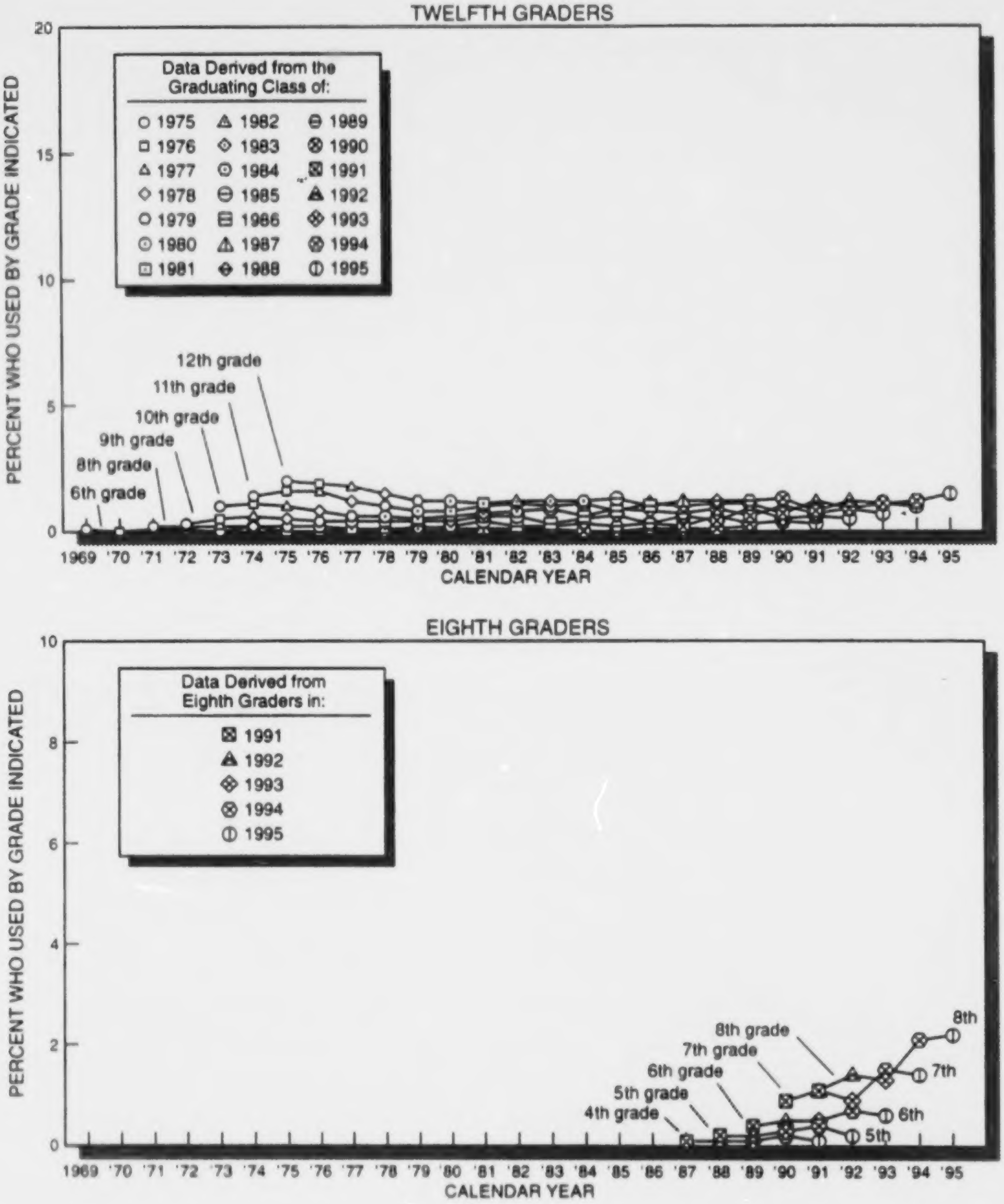


FIGURE 18o

Other Opiates: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

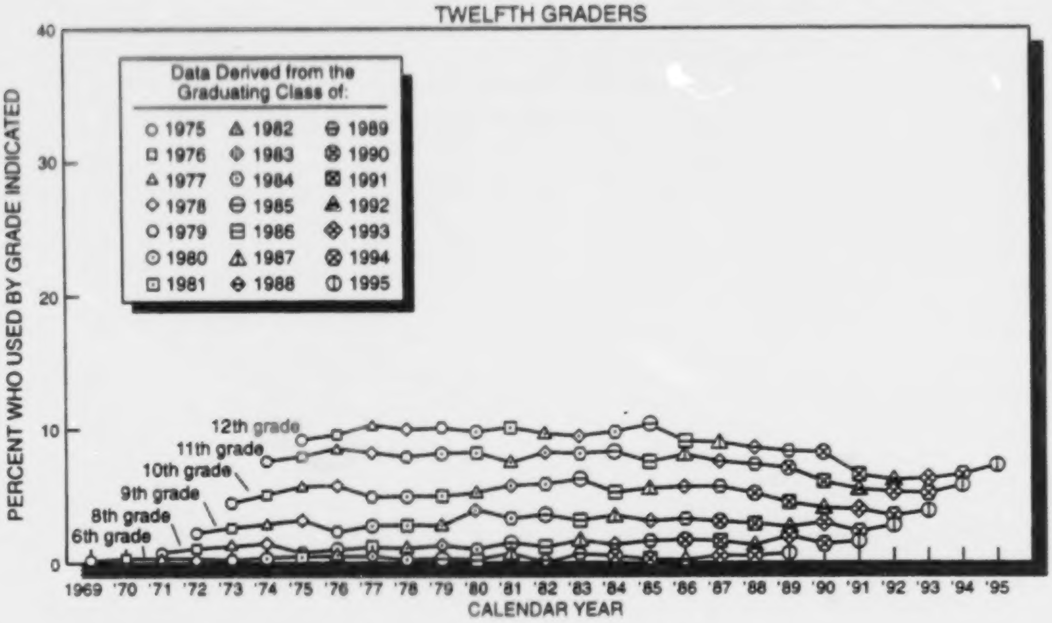
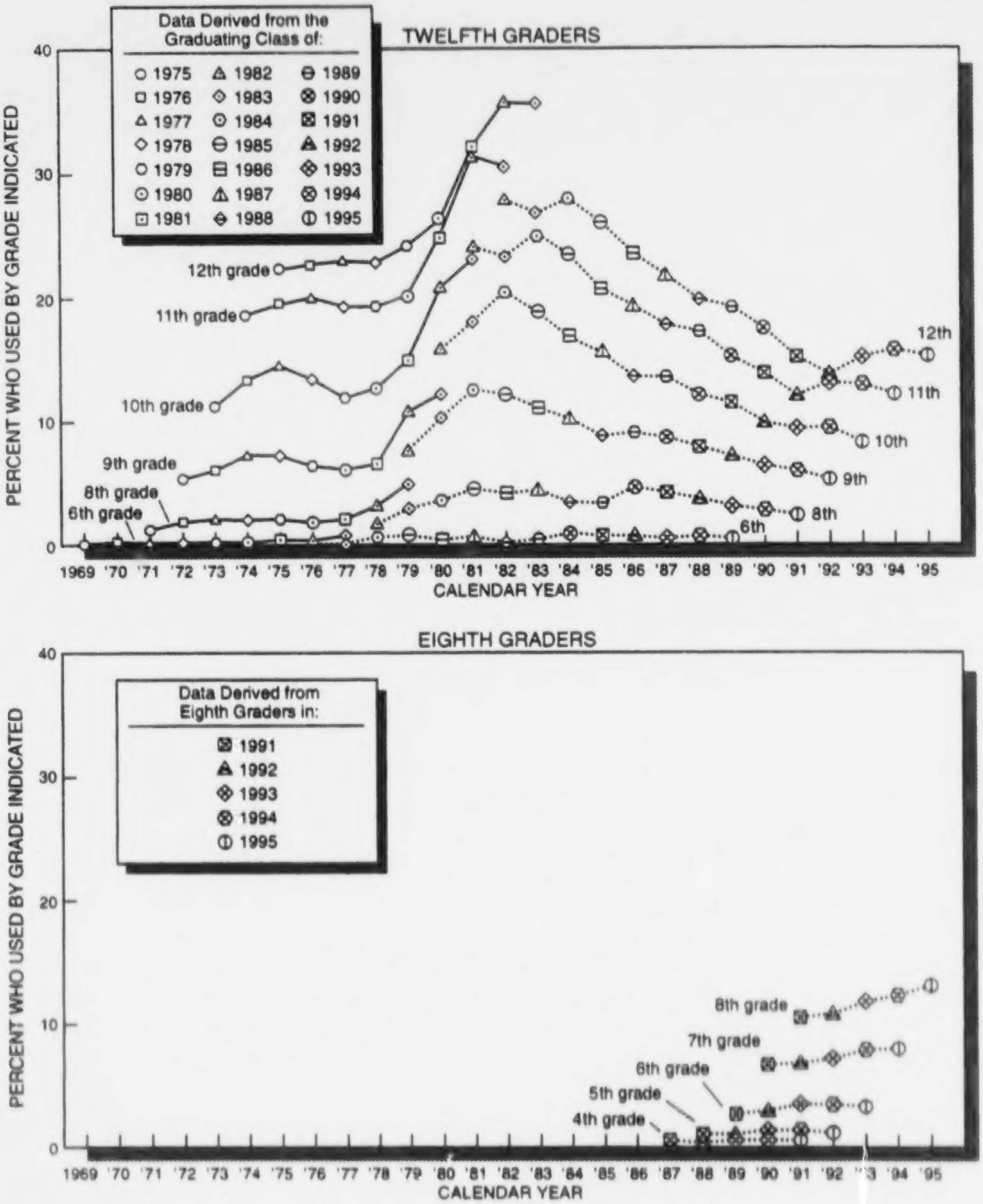


FIGURE 18p

Stimulants: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth and Eighth Graders



NOTE: The dotted lines connect percentages which result if non-prescription stimulants are excluded.

FIGURE 18q

Barbiturates: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

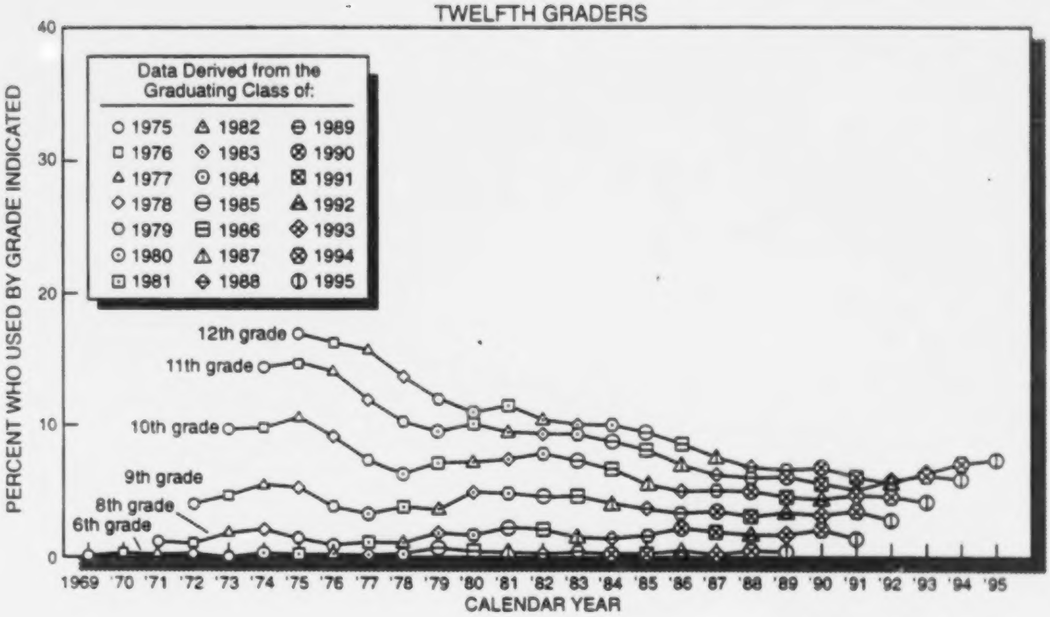


FIGURE 18r

Methaqualone: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth Graders

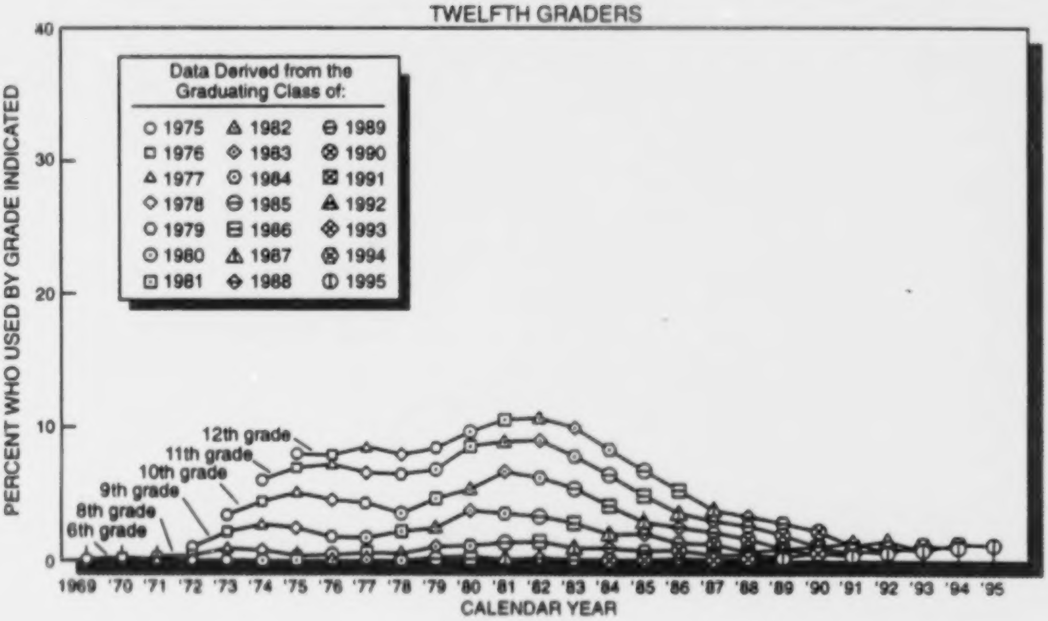


FIGURE 18s

Tranquilizers: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth and Eighth Graders

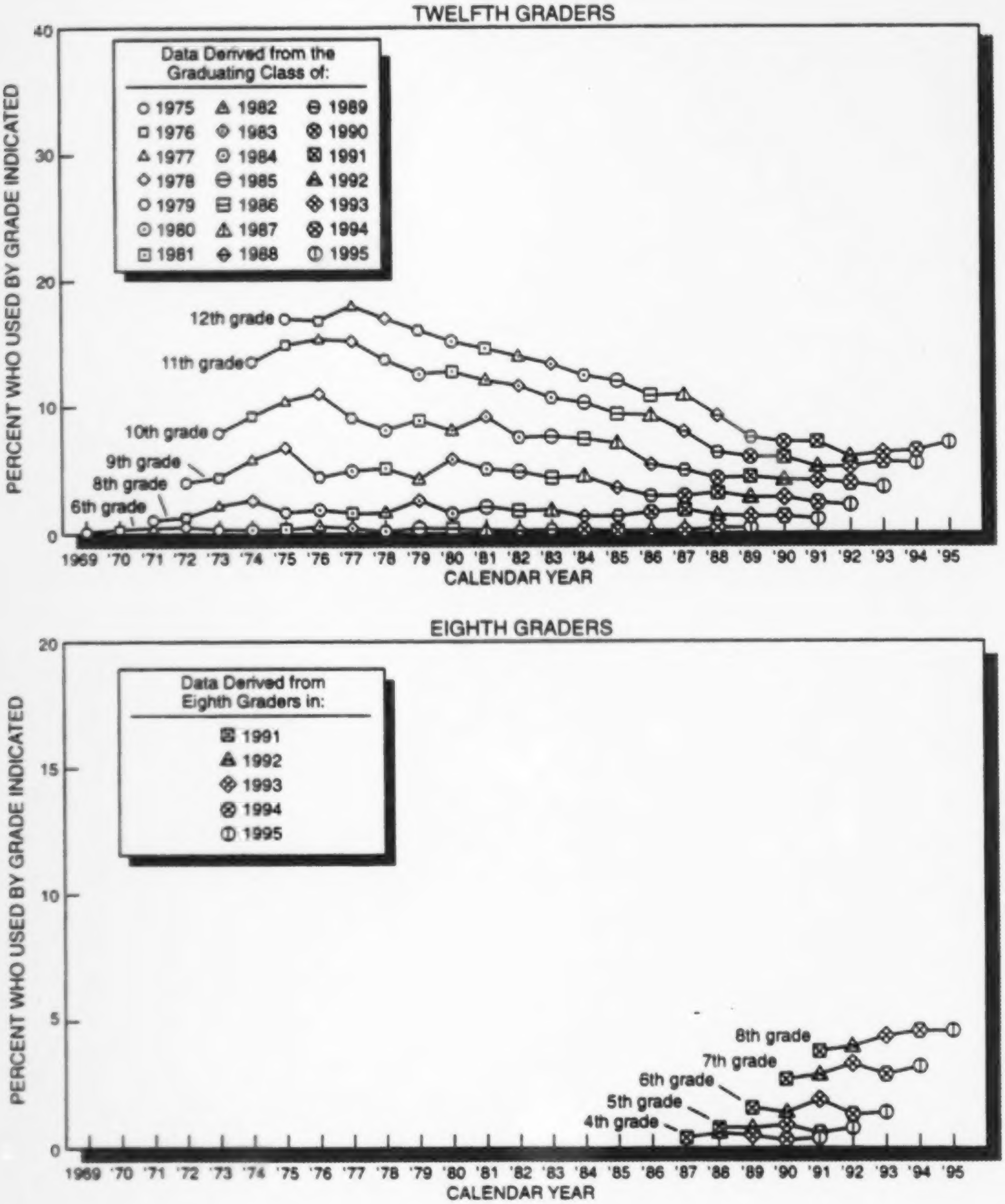
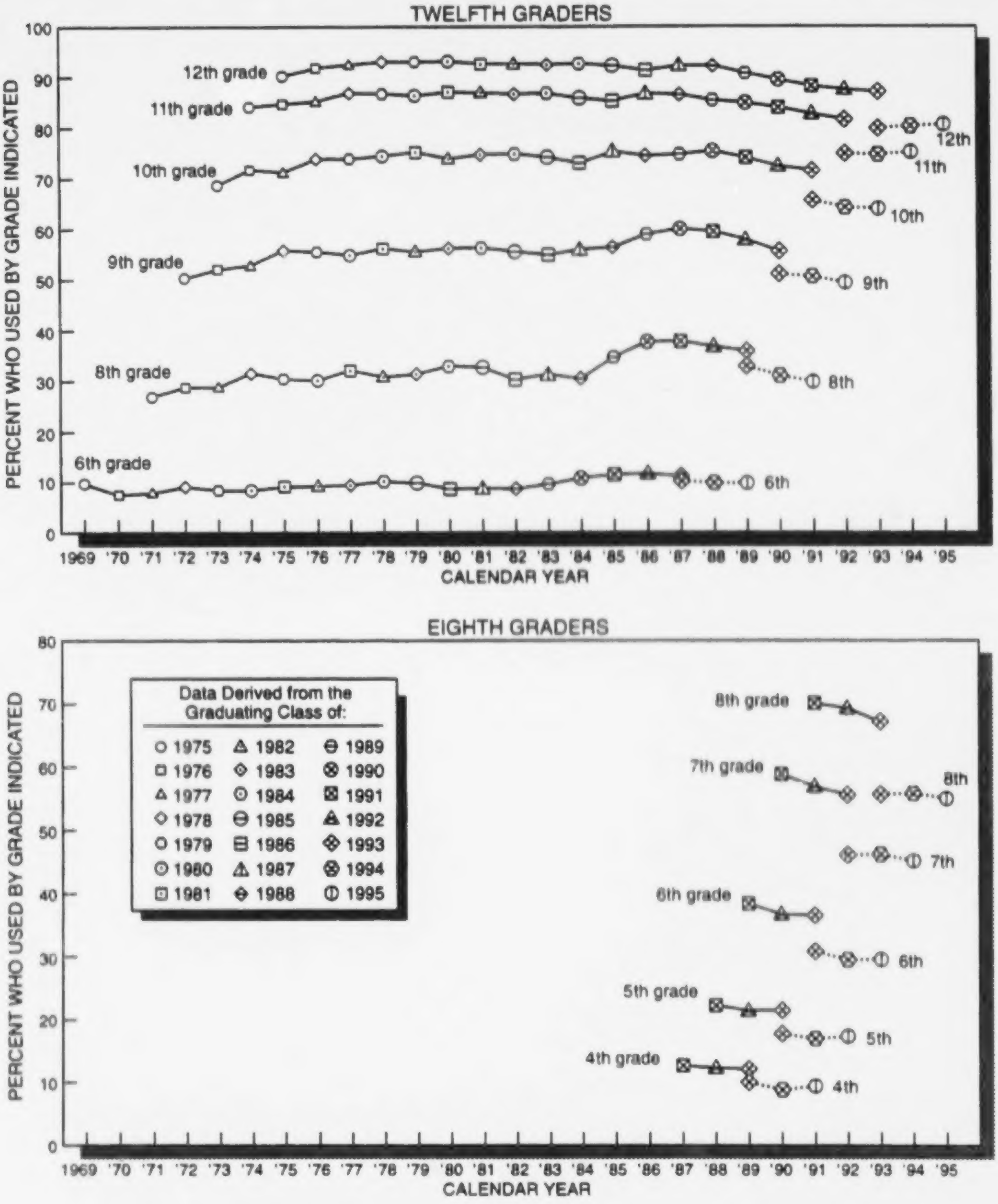


FIGURE 18t

Alcohol: Trends in Lifetime Prevalence for Earlier Grade Levels

Based on Retrospective Reports from Twelfth and Eighth Graders



NOTE: The dotted lines connect percentages based on the revised alcohol question.

FIGURE 18u

Been Drunk: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth and Eighth Graders

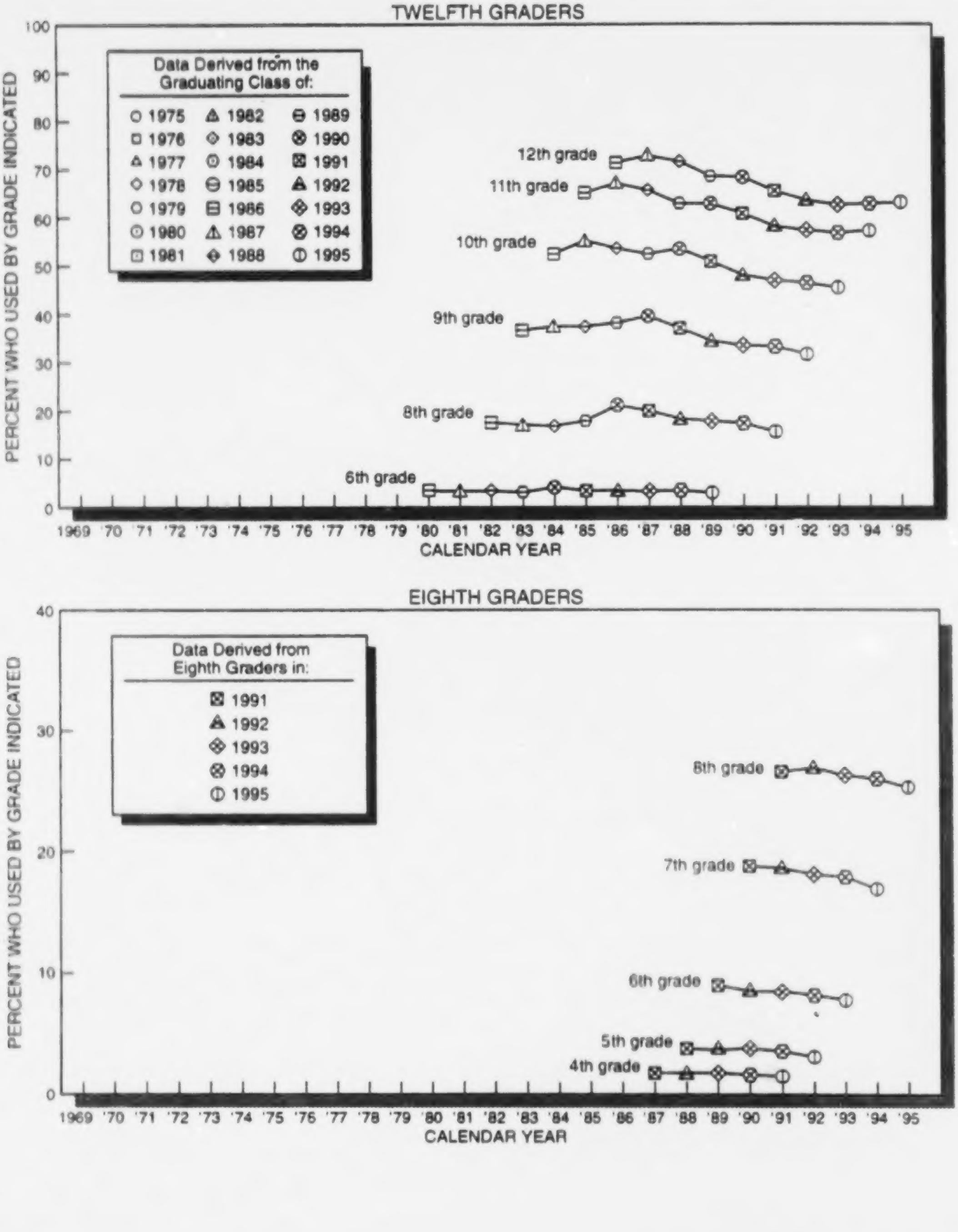


FIGURE 18v

Cigarettes: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth and Eighth Graders

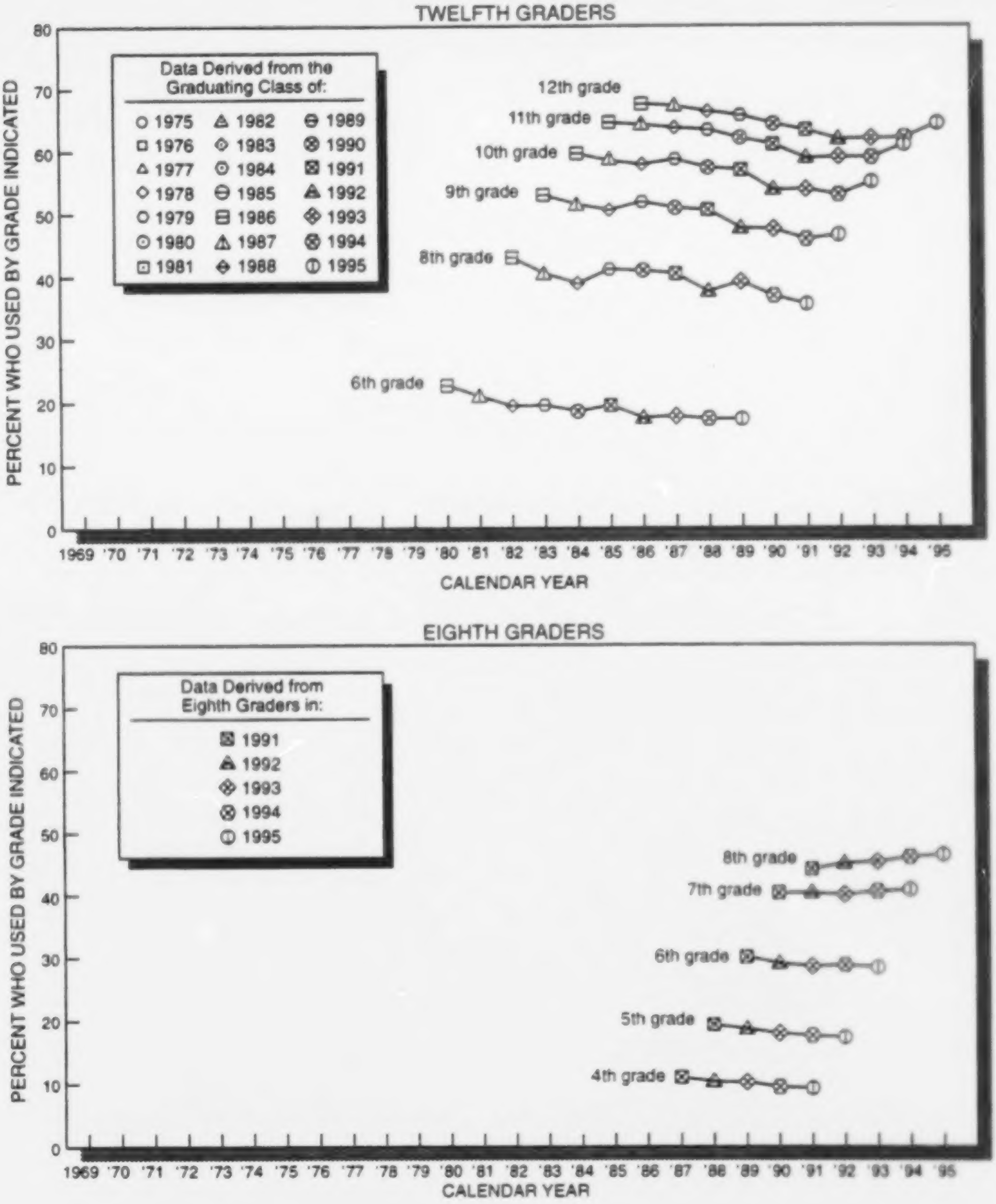


FIGURE 18w

Cigarette Smoking on a Daily Basis: Trends in Lifetime Prevalence for Earlier Grade Levels

Based on Retrospective Reports from Twelfth and Eighth Graders

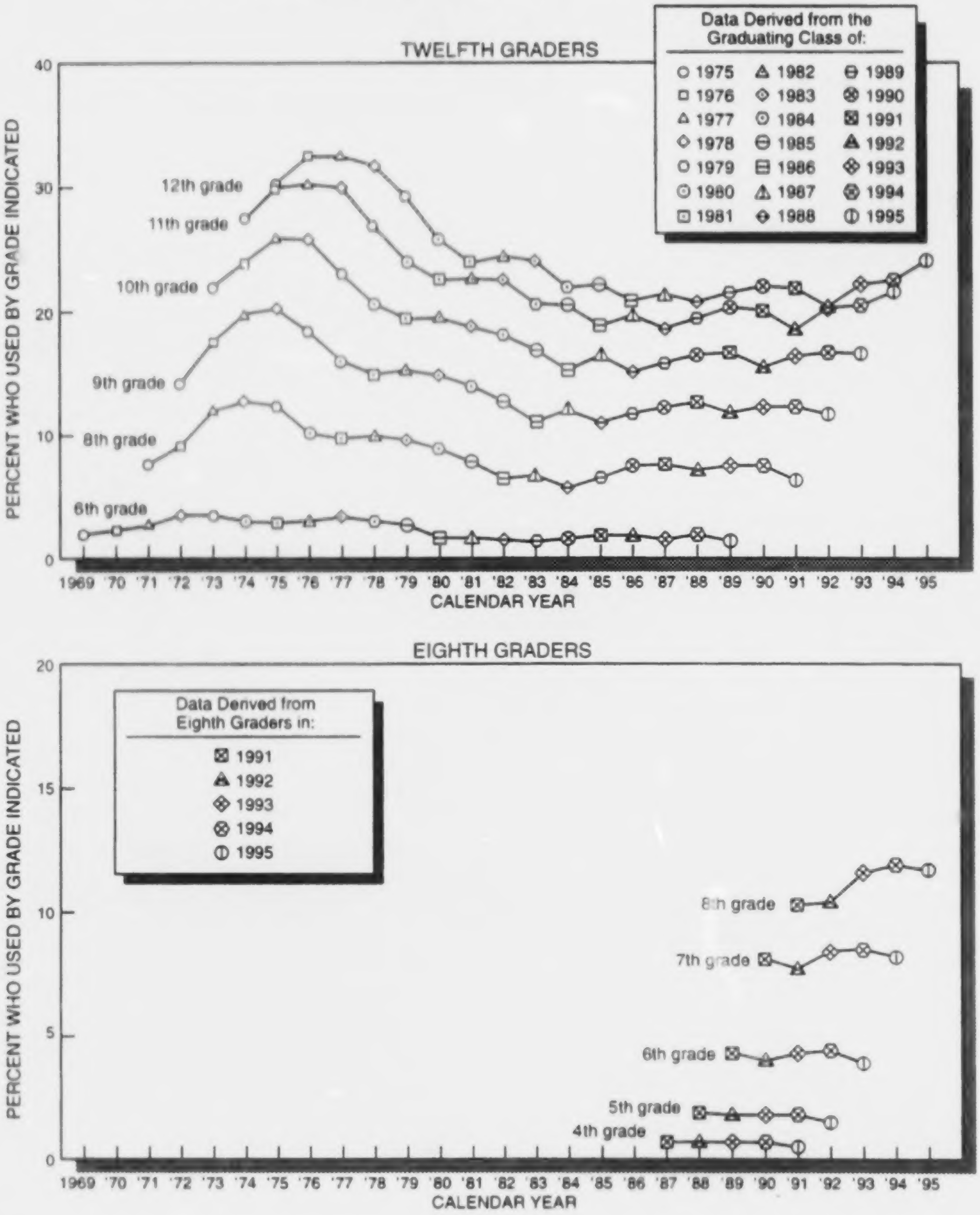
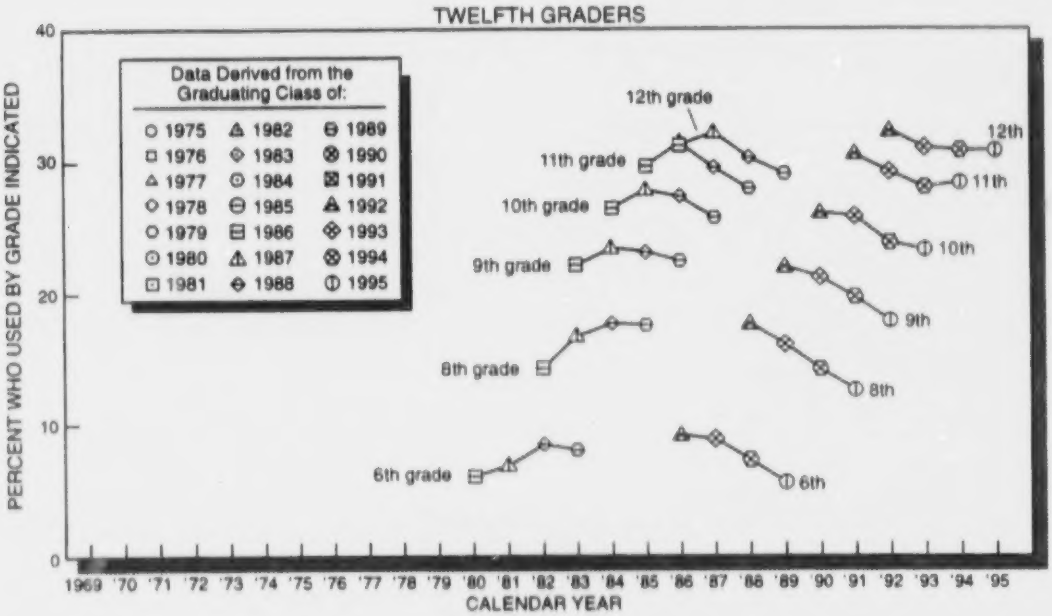
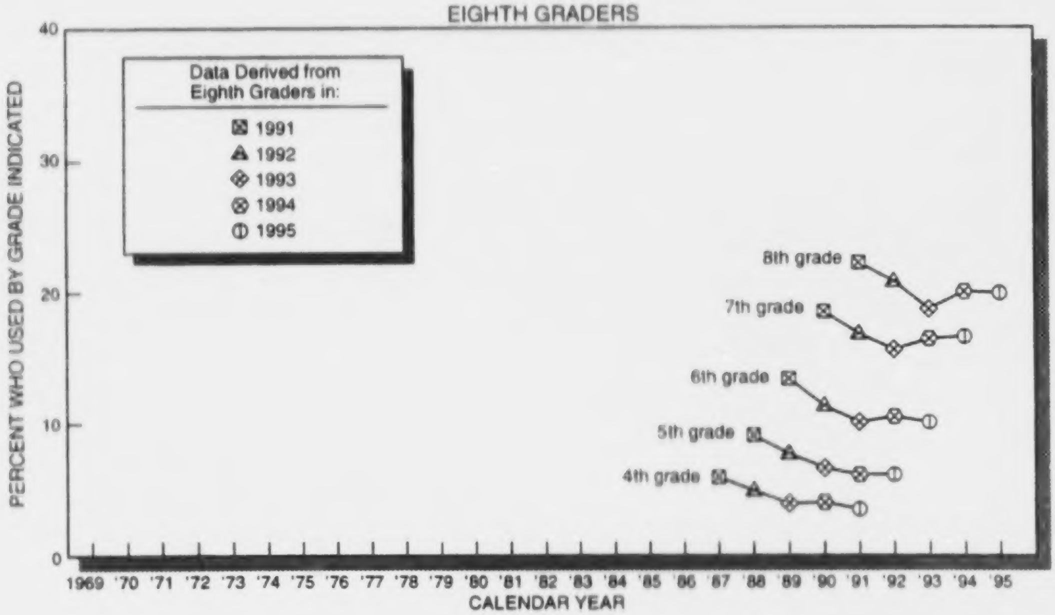


FIGURE 18x

Smokeless Tobacco: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth and Eighth Graders

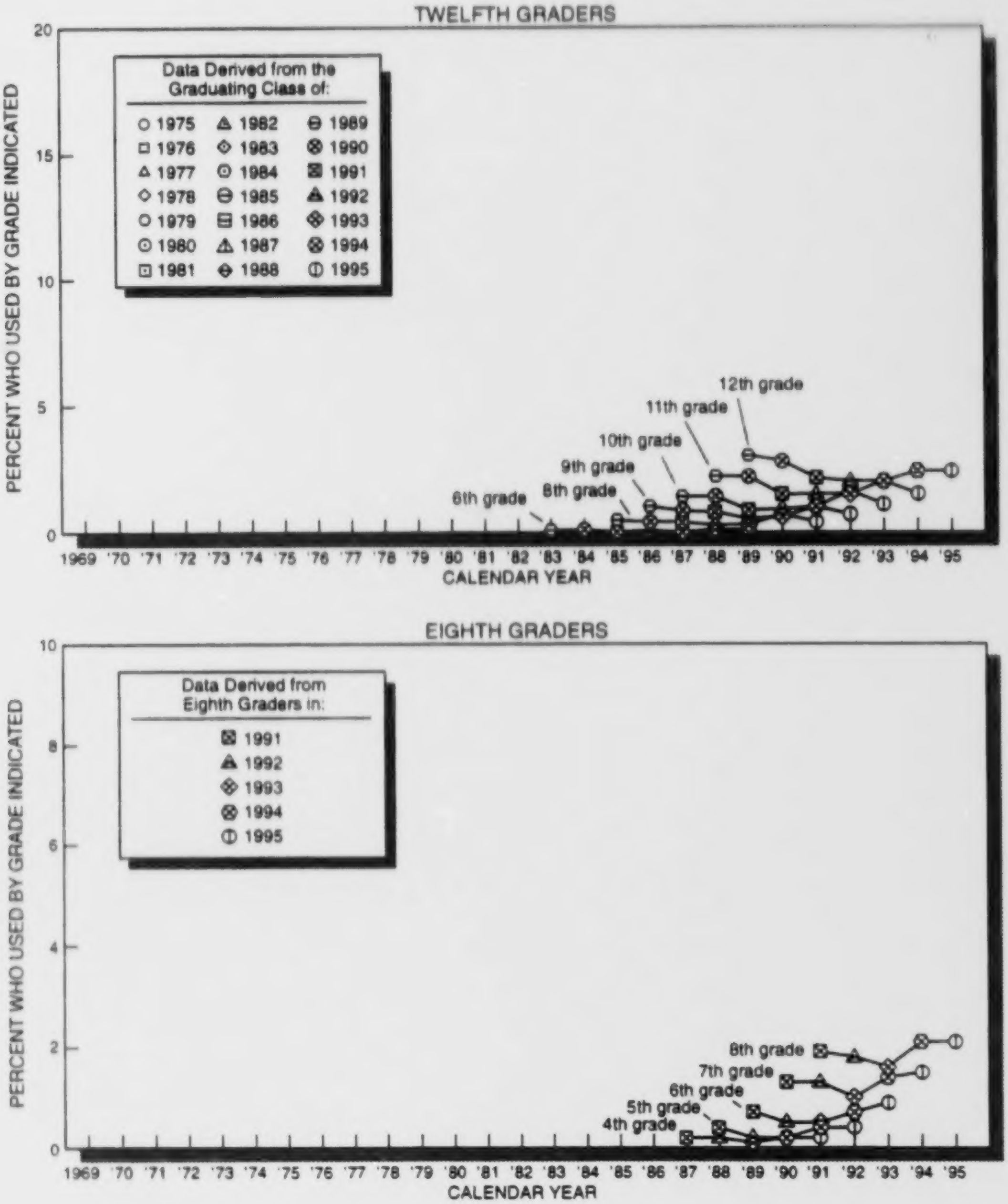




NOTE: Prevalence of smokeless tobacco was not asked of twelfth graders in 1990 and 1991. Prior to 1990 the prevalence question on smokeless tobacco was located near the end of one twelfth grade questionnaire form, whereas after 1991 the question was placed earlier and in a different form. This shift could explain the discontinuities between the corresponding lines for each grade.

FIGURE 18y

Steroids: Trends in Lifetime Prevalence for Earlier Grade Levels
Based on Retrospective Reports from Twelfth and Eighth Graders



Chapter 7

DEGREE AND DURATION OF DRUG HIGHS

Most illicitly-used drugs are not purchased in precisely defined (or known) quantities or purities. Therefore, in order to secure indirect measures of the dose or quantity of a drug consumed per occasion, and also to help characterize the typical drug-using event for each type of drug, we have asked twelfth grade respondents in one of the six questionnaire forms to indicate—for each drug that they report having used in the past twelve months—how high they usually get, and how long they usually stay high. The results from those questions are discussed in this chapter, along with trends since 1975, in the degree and duration of the highs usually associated with each of the relevant drugs. Since these questions were not included in the questionnaires administered to eighth and tenth graders, all of the data presented in this chapter are derived from high school seniors.

DEGREE AND DURATION OF HIGHS AMONG TWELFTH GRADERS

Figure 19 shows the proportion of 1995 seniors who say that they usually get "not at all" high, "a little" high, "moderately" high, or "very" high when they use a given type of drug. The percentages are based on all respondents who report use of the given drug class in the previous twelve months, and therefore each bar cumulates to 100%. The ordering from left to right is based on the percentage of users of each drug who report that they usually get "very" high. Because the statistics are based on self-reported users in only one of the six questionnaire forms used with seniors, the N's sometimes are small. The reader is advised to attend to the sample sizes given in the accompanying tables.

- ***Hallucinogens*** (LSD and hallucinogens other than LSD[30]) and ***heroin*** usually produce intense highs. Beginning in 1982, this question was omitted for heroin because of the small numbers of cases available each year. An averaging across earlier years indicated that it would rank very close to LSD.

- Following closely are ***cocaine*** and ***marijuana*** with more than two-thirds of the users of each saying they usually get moderately high or very high when using the drug.

- Three of the major psychotherapeutic drug classes—***opiates other than heroin***, ***tranquilizers***, and ***stimulants***—are used less often to get high, but substantial proportions of users (from 36% for stimulants to 60% for other opiates) say they usually get moderately or very high after taking these drugs.

- Relatively few of the many seniors using ***alcohol*** say that they usually get *very* high when drinking, although nearly half usually get at least

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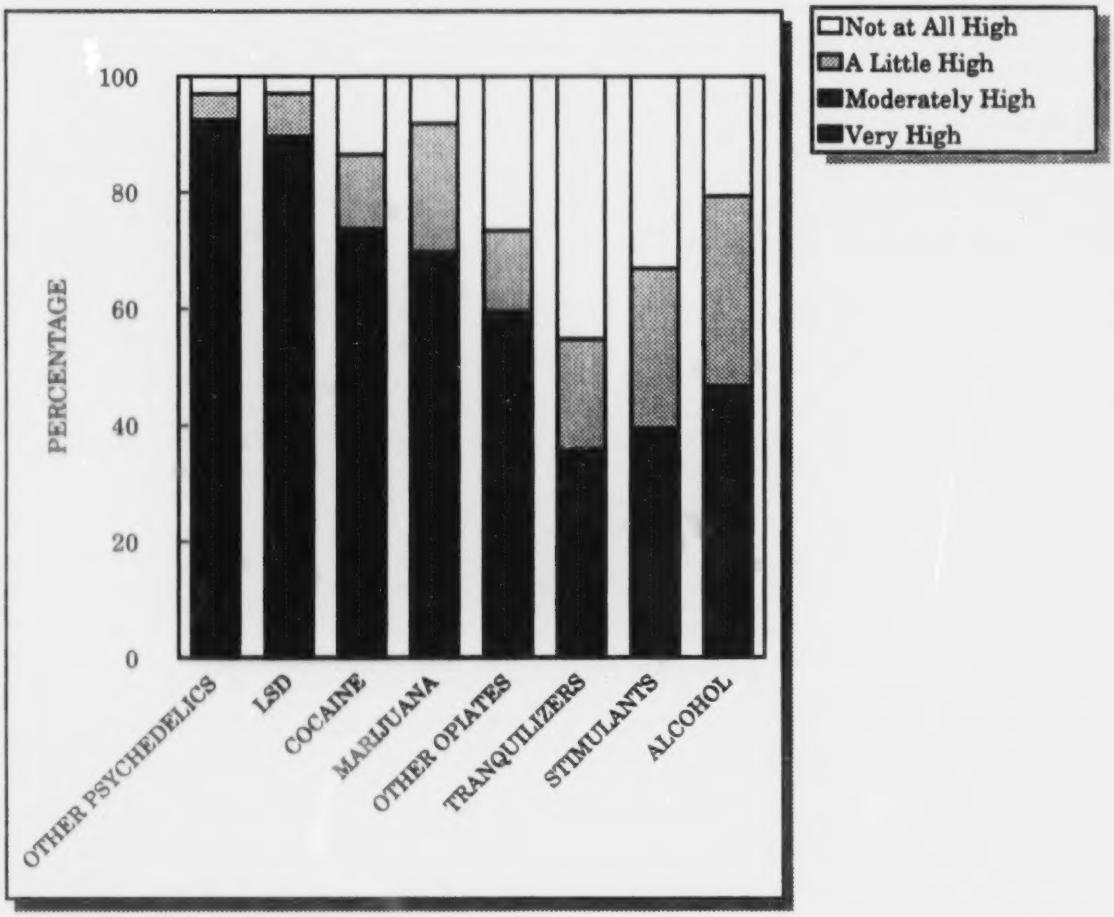
[30] Hallucinogens other than LSD are referred to as "other psychedelics" in Figures 19 and 20.

FIGURE 19

Degree of Drug Highs Attained by Recent Users
Twelfth Graders, 1995



NOTE: Data are based on answers from respondents reporting any use of the drug in the prior twelve months. Heroin is not included in this figure because these particular questions are not asked of the small number of heroin users.

moderately high. For a given individual we would expect more variability in the degree of intoxication achieved with alcohol from occasion to occasion than with most other drugs. Therefore, many drinkers probably get very high at least sometimes, even if that is not "usually" the case, which is what the question asks.

Figure 20 presents the data on the duration of the highs usually obtained by users of each class of drugs. The drugs are arranged in the same order as for intensity of highs to permit an examination of the amount of correspondence between the degree and duration of highs.

- As can be seen in Figure 20, those drugs which result in the most intense highs generally tend to result in the longest highs. For example, ***LSD*** and ***hallucinogens other than LSD*** rank one and two respectively on both dimensions, with substantial proportions of the users of these drugs (73% and 56%, respectively) saying they usually stay high for seven hours or more.

- Correspondence between degree and duration of highs is not perfect. For example, the highs obtained with ***marijuana*** tend to be relatively intense in degree, but shorter in duration in comparison with many other drugs. About half of marijuana users (46%) usually stay high one to two hours, and the modal duration is one to two hours. Still, over one-third of the users (38%) report usually staying high three to six hours, and another 8% stay high for seven hours or more.

- Among ***cocaine*** users, 41% stay high one to two hours and 19% stay high three to six hours. More than one in four (27%) stay high seven or more hours. The remaining 13% say they usually don't get high.

- In sum, drugs vary considerably in both the duration and degree of the highs usually obtained from them. Sizeable proportions of the users of all of these drugs report that they usually get high for at least three hours per occasion. For a number of drugs—particularly the ***hallucinogens***, but also ***stimulants*** and ***cocaine***—appreciable proportions usually stay high for seven hours or more. (These data obviously do not address the qualitative differences in the experiences of being "high.")

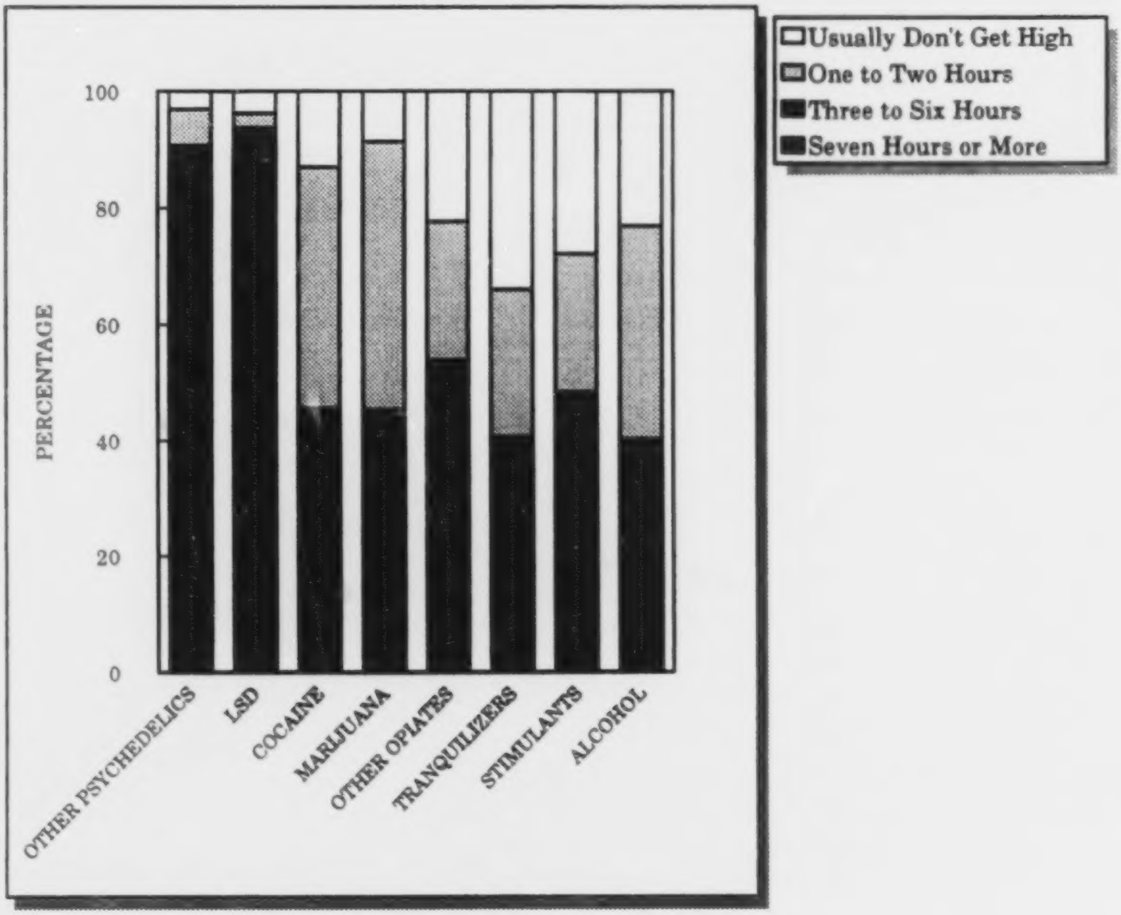
TRENDS IN DEGREE AND DURATION OF DRUG HIGHS

There have been several important shifts over the years in the degree or duration of highs usually experienced by users of the various drugs. Recall that only those students who used in the prior twelve months answer these questions.

- The *degree* of high obtained from ***cocaine*** appears to have remained fairly constant since 1981, following a period of some decline in degree of highs obtained as prevalence grew between 1975 and 1981. At the

FIGURE 20

Duration of Drug Highs Attained by Recent Users
Twelfth Graders, 1995



NOTE: Data are based on answers from respondents reporting any use of the drug in the prior twelve months. Heroin is not included in this figure because these particular questions are not asked of the small number of heroin users.

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onset phase of the cocaine epidemic (1976 to 1979), the average duration of highs also shortened; the proportion of users reporting highs of two hours *or less* rose from 30% to 49%. The proportion reporting these short highs continued to rise to 64% by 1989. Put another way, during the decline phase of the epidemic (1986-1992) the *average duration* of cocaine highs decreased further.

- For ***opiates other than heroin***, between 1975 and 1992 there was a general decline both in the intensity of the highs usually experienced and in the duration of those highs. In 1975, 39% said they usually got "very high" vs. 12% in 1992. The proportion usually staying high for seven or more hours dropped from 28% in 1975 to 11% in 1992. This shift occurred, in part, due to a substantial increase in the proportion of users who say they do not take these drugs "to get high" (4% in 1975 vs. 28% in 1992). Because the actual prevalence of opiate use dropped only modestly over this interval, these findings suggest that increasing use for self-medication may have masked, to some degree, a decrease in recreational use. Since 1992, there has been a modest increase in the use of other opiates, as well as illicit drugs in general, accompanied by an increase in the degree and duration of the highs experienced by users.

- Between 1975 and 1981, ***stimulant*** use increased among seniors, but average *degree* of high obtained decreased, much as occurred with cocaine. The proportion of recent users usually getting very high or moderately high fell from 60% in 1975 to 37% in 1981. Consistent with this, the proportion of users saying they simply "don't take them to get high" increased from 9% in 1975 to 20% by 1981, and has remained roughly the same thereafter.

  Also, the average reported *duration* of stimulant highs was declining over the longer term; 41% of the 1975 users said they usually stayed high seven or more hours vs. only 17% of the 1981 users.[31] In 1995, 19% of users said they usually stay high that long.

  These substantial decreases in both the degree and duration of highs between 1975 to 1981 strongly suggested a shift in the purposes for which stimulants were being used. An examination of data on self-reported reasons for use tends to confirm this conclusion. Between 1979 and 1984, there was a relative decline in the frequency with which recent users mention "social/recreational" reasons for use, and between

---

[31] In 1982, the questionnaire form containing the questions on degree and duration of highs clarified the amphetamine questions to eliminate the inappropriate inclusion of nonprescription stimulants. One might have expected this change to have increased the degree and duration of highs reported, given that real amphetamines would be expected to have greater psychological impact on the average; but the trends still continued downward that year.

1976 and 1984 there was an increase in mentions of use for instrumental purposes.[32] Since 1984 the shifts have been slight.

- With respect to the social/recreational shifts from 1979 to 1984, the percent of all recent users citing "to feel good or get high" as a reason for stimulant use declined from 58% to 45%; in 1995 the figure was 48%. Similarly, "to have a good time with my friends" declined from 38% to 30% between 1979 and 1984; in 1995 the figure was 30%. There were shifts toward more instrumental use between 1976 and 1984: "to lose weight" increased by 15% (to 41%); "to get more energy" increased 13% (to 69%); "to stay awake" increased by 10% (to 62%) and "to get through the day" increased by 9% (to 32%). Since about 1988, these instrumental objectives have been mentioned somewhat less often by users: In 1995, "to lose weight" is mentioned by 32% of recent users; "to get more energy" by 56%; "to stay awake" by 44%; and "to get through the day" by 23%.

- Despite the earlier *relative* decline in recreational reasons for use of stimulants, it also appears that there was at least some increase in the *absolute* level of recreational use, though clearly not as steep an increase as the trends through 1981 in overall use might have suggested. The data on the percent of seniors exposed to people using amphetamines "to get high or for kicks," which will be discussed further in Chapter 9, showed a definite increase between 1976 and 1981. There was no further increase in exposure to people using for those purposes in 1982, suggesting that recreational use, as well as overall use, had leveled off; since 1982 there has been a considerable decrease in such exposure (from 50% to 28% of all seniors in 1995), indicating a substantial drop in the total number of people using stimulants for recreational purposes.

- The degree and duration of highs achieved by ***tranquilizer*** users have been decreasing since about 1980. While only 15% of the 1980 senior users said they did not usually get high, 35% of the 1990 users said that they did not. However, as use has risen during the last few years, the proportion of users saying they do not use tranquilizers to get high has declined to 29% in 1995.

- For ***marijuana*** there was some general downward trending between 1978 and 1983 in the degree of the highs usually obtained. In 1978, 73% of users said they usually got "moderately high" or "very high" dropping to 64% by 1983. In 1995 this proportion stands at 70%. (See Table 18a.)

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[32] Johnston, L.D. & O'Malley, P.M. (1986). Why do the nation's students use drugs and alcohol? Self-reported reasons from nine national surveys. *Journal of Drug Issues*, 16, 29-66.

Some interesting changes also took place in the duration figures for ***marijuana*** between 1978 and 1983. Most marijuana users say they usually stay high either one to two hours *or* three to six hours. Between 1975 and 1983 there was a steady decline in the proportion of users saying they stayed high three or more hours (from 52% in 1975 to 35% in 1983). Until 1979, the downward shift could have been due almost entirely to the fact that progressively more seniors were using marijuana; and the users in later classes, who might *not* have been users if they were in earlier classes, probably tended to be relatively light users. We deduce this from the fact that the percentage of *all* seniors reporting three to six hour highs remained relatively unchanged from 1975 to 1979, while the percentage of all seniors reporting only one to two hour highs increased steadily–from 16% in 1975 to 25% in 1979.

- After 1979, the overall prevalence rate declined substantially, but the shift toward shorter average highs continued through 1983. Thus we must attribute this shift to another factor, and the one which seems most likely is a general shift, even among the most marijuana-prone segment, toward a less frequent (or less intense) use of the drug. The drop in daily prevalence after 1979, which was disproportionately large relative to the drop in overall prevalence, is consistent with this interpretation. Also consistent is the fact that the average number of "joints" smoked per day (among those who reported any use in the prior month) also dropped. In 1976, 55% of the recent (past 30-days) users of marijuana indicated that they averaged less than one joint per day in the prior 30 days, but by 1995 this proportion had risen to 64%. In sum, not only were fewer high school students using marijuana than in the early years of this study, but those who were using seemed to be using less frequently and to be taking smaller amounts (and doses of the active ingredient) per occasion, at least through 1988.

- The fact that ***marijuana*** highs became less intense through the 1980s is of particular interest in light of the evidence from other sources that the THC content of marijuana had risen substantially since the late 1970s. The evidence here would suggest that users have titrated their intake to achieve a certain (perhaps declining) level of high, and thus are smoking less marijuana as measured by volume.

- There are no clearly discernible long-term patterns in the intensity or duration of the highs being experienced by users of ***LSD*** or ***hallucinogens other than LSD***.

- Data are not collected for highs experienced in the use of ***inhalants***, the specific ***nitrites***, ***PCP***, or ***heroin***.

- The intensity and duration of highs associated with ***alcohol*** use generally have been stable throughout the study period. (See Table 18b.)

TABLE 18a
Marijuana: Trends in Degree and Duration of Feeling High for Twelfth Graders

Q. When you take marijuana or hashish how high do you usually get?[a]	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995
Percent of Recent Users																					
Not at all high	6.9	5.7	7.5	6.3	6.0	6.3	4.9	4.6	6.6	6.8	7.2	5.1	6.8	6.6	7.6	5.8	7.2	7.8	9.0	7.0	8.1
A little high	22.1	20.9	22.5	20.3	22.5	23.5	29.0	26.3	29.4	29.0	27.2	27.6	29.5	30.2	22.8	23.2	21.6	25.9	19.4	21.7	22.3
Moderately high	45.5	47.7	43.5	46.8	47.5	47.7	45.7	45.6	41.9	36.9	41.8	43.8	40.9	40.3	44.1	40.8	42.8	39.3	45.9	40.6	40.8
Very high	25.5	25.7	26.5	26.6	24.0	22.6	20.4	23.5	22.0	27.4	23.8	23.5	22.9	22.9	25.5	30.3	28.4	27.0	25.8	30.7	28.8
Approx. N=	1142	1266	1448	1873	1606	1495	1607	1588	1366	1264	1298	1177	1174	1142	782	694	591	605	669	779	916
Percent of All Respondents																					
No use in last 12 months	60.0	55.5	52.4	49.8	49.4	52.4	53.2	54.7	58.2	59.9	59.0	61.2	63.5	64.9	71.6	72.7	76.2	76.8	74.8	69.6	64.1
Not at all high	2.8	2.5	3.6	3.2	3.0	3.0	2.3	2.1	2.8	2.7	2.9	2.0	2.5	2.3	2.2	1.6	1.7	1.8	2.3	2.1	2.9
A little high	8.8	9.3	10.7	10.2	11.4	11.2	13.6	11.9	12.3	11.6	11.2	10.7	10.7	10.6	6.5	6.3	5.1	6.0	4.9	6.6	8.0
Moderately high	18.2	21.2	20.7	23.5	24.0	22.7	21.4	20.6	17.5	14.8	17.2	17.0	14.9	14.1	12.5	11.1	10.2	9.1	11.6	12.4	14.7
Very high	10.2	11.4	12.6	13.4	12.2	10.8	9.6	10.6	9.2	11.0	9.8	9.1	8.4	8.1	7.2	8.3	6.7	6.3	6.5	9.3	10.4
Approx. N=	2855	2845	3042	3731	3175	3143	3437	3506	3268	3154	3163	3033	3219	3250	2755	2542	2487	2614	2655	2558	2549
Q. When you take marijuana or hashish how long do you usually stay high?[a]																					
Percent of Recent Users																					
Usually don't get high	8.5	8.0	9.5	8.0	8.4	8.5	7.6	7.0	9.9	9.6	9.3	8.2	11.1	9.6	10.8	7.8	8.5	9.5	10.9	9.5	8.7
One to two hours	39.7	43.2	42.6	47.4	48.7	51.7	52.5	53.8	55.6	51.7	52.4	55.0	52.9	56.0	51.9	53.3	49.5	47.2	48.6	47.4	46.0
Three to six hours	45.4	43.7	42.7	39.0	37.4	35.0	35.7	34.2	30.4	33.1	34.0	32.9	32.2	30.2	33.3	33.1	34.4	37.7	36.8	36.1	37.6
Seven to 24 hours	5.9	4.9	4.7	5.1	5.0	4.1	4.0	4.5	3.5	5.0	3.9	3.3	3.7	3.8	3.3	5.4	6.9	4.9	3.2	5.5	6.7
More than 24 hours	0.5	0.2	0.6	0.5	0.5	0.7	0.2	0.5	0.6	0.7	0.4	0.6	0.1	0.4	0.8	0.4	0.8	0.8	0.4	1.4	1.0
Approx. N=	1141	1261	1449	1873	1619	1500	1607	1593	1357	1268	1295	1176	1172	1147	787	694	589	602	666	774	911
Percent of All Respondents																					
No use in last 12 months	60.0	55.5	52.4	49.8	49.2	52.3	53.2	54.6	58.4	59.9	59.0	61.2	63.6	64.8	71.5	72.7	76.3	76.9	74.9	69.7	64.2
Usually don't get high	3.4	3.6	4.5	4.0	4.3	4.0	3.6	3.2	4.1	3.8	3.8	3.2	4.0	3.4	3.1	2.1	2.0	2.2	2.7	2.9	3.1
One to two hours	15.9	19.2	20.3	23.8	24.7	24.6	24.5	24.4	23.1	20.7	21.5	21.3	19.3	19.7	14.8	14.6	11.7	10.9	12.2	14.4	16.5
Three to six hours	18.2	19.4	20.3	19.6	19.0	16.7	16.7	15.5	12.7	13.3	13.9	12.8	11.7	10.7	9.5	9.0	8.1	8.7	9.2	11.0	13.5
Seven to 24 hours	2.4	2.2	2.2	2.6	2.5	2.0	1.9	2.0	1.4	2.0	1.6	1.3	1.3	1.3	0.9	1.5	1.6	1.1	0.8	1.7	2.4
More than 24 hours	0.2	0.1	0.3	0.3	0.2	0.3	0.1	0.2	0.3	0.3	0.2	0.2	0.0	0.1	0.2	0.1	0.2	0.2	0.1	0.4	0.4
Approx. N=	2853	2834	3044	3731	3188	3149	3437	3511	3259	3158	3160	3032	3218	3255	2760	2542	2485	2611	2652	2553	2544

NOTE: '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] These questions appear in just one form. They are asked only of respondents who report use of the drug in the prior twelve months (i.e., "recent users").

TABLE 18b
Alcohol: Trends in Degree and Duration of Feeling High for Twelfth Graders

Q. When you drink alcoholic beverages how high do you usually get?[a]	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995
Percent of Recent Users																					
Not at all high	23.6	21.6	20.6	19.1	19.6	20.7	18.9	18.9	18.8	19.0	19.7	18.5	18.8	20.0	22.1	23.0	20.6	24.2	23.8	19.7	20.7
A little high	33.8	32.3	32.8	33.9	33.6	32.6	33.8	32.6	35.8	34.0	34.8	34.7	34.4	34.2	34.4	32.3	36.8	32.5	32.2	32.7	32.6
Moderately high	35.9	38.0	39.6	39.9	38.7	39.7	41.4	40.9	38.8	39.2	38.5	39.8	38.8	38.2	35.9	36.2	34.0	35.6	36.5	38.3	36.5
Very high	6.6	8.1	7.0	7.1	8.1	7.0	5.8	7.5	6.7	7.8	7.1	7.1	8.0	7.6	7.6	8.5	8.6	7.7	7.5	9.2	10.1
Approx. N=	2419	2368	2578	3124	2764	2709	2912	2958	2808	2601	2618	2531	2718	2755	2211	1965	1898	1965	1960	1866	1867
Percent of All Respondents																					
No use in last 12 months	15.2	14.3	13.0	12.3	12.5	13.2	14.7	14.1	14.1	17.1	16.1	16.0	14.6	14.8	18.8	21.2	22.7	23.6	25.4	26.4	25.7
Not at all high	20.0	18.5	17.9	16.8	17.2	18.0	16.2	16.2	16.2	15.8	16.5	15.5	16.0	17.0	18.0	18.1	15.9	18.5	17.8	14.5	15.4
A little high	28.7	27.7	28.5	29.7	29.4	28.3	28.9	28.0	30.7	28.2	29.2	29.1	29.4	29.2	28.0	25.5	28.5	24.8	24.0	24.1	24.2
Moderately high	30.4	32.6	34.5	35.0	33.8	34.4	35.3	35.2	33.3	32.5	32.3	33.4	33.1	32.6	29.2	28.5	26.3	27.2	27.2	28.2	27.1
Very high	5.6	6.9	6.1	6.2	7.1	6.1	5.0	6.5	5.7	6.5	5.9	6.0	6.8	6.5	6.1	6.7	6.7	5.9	5.6	6.8	7.5
Approx. N=	2853	2763	2963	3562	3159	3122	3413	3443	3268	3137	3120	3011	3183	3232	2721	2493	2454	2572	2627	2533	2514
Q. When you drink alcoholic beverages how long do you usually stay high?[a]																					
Percent of Recent Users																					
Usually don't get high	25.7	24.6	22.6	21.3	21.7	22.7	20.9	20.5	21.4	20.3	21.5	20.9	20.8	22.9	24.2	24.7	23.0	27.0	26.1	22.5	23.2
One to two hours	40.5	38.5	38.8	39.8	41.9	39.5	40.3	41.3	40.8	42.2	41.5	40.6	43.8	42.0	41.3	39.4	40.1	37.3	38.8	40.5	36.7
Three to six hours	30.1	33.8	34.8	35.7	32.7	33.8	35.6	34.4	33.7	33.1	33.5	34.9	31.5	32.1	31.6	31.7	31.7	30.7	30.4	32.2	34.2
Seven to 24 hours	3.4	3.0	3.5	3.1	3.4	3.8	3.1	3.4	3.9	4.0	3.1	3.2	3.7	2.9	2.8	4.0	4.6	4.7	4.3	4.2	5.4
More than 24 hours	0.2	0.2	0.3	0.1	0.2	0.2	0.1	0.4	0.3	0.3	0.4	0.4	0.2	0.1	0.2	0.3	0.6	0.3	0.3	0.6	0.6
Approx. N=	2403	2358	2547	3098	2746	2697	2892	2947	2792	2588	2608	2509	2711	2748	2202	1949	1884	1951	1950	1857	1849
Percent of All Respondents																					
No use in last 12 months	15.2	14.3	13.0	12.3	12.6	13.3	14.8	14.1	14.1	17.1	16.1	16.1	14.7	14.8	18.8	21.3	22.8	23.7	25.5	26.4	25.9
Usually don't get high	21.8	21.1	19.7	18.7	19.0	19.7	17.8	17.6	18.3	16.9	18.0	17.5	17.8	19.5	19.6	19.4	17.8	20.6	19.5	16.5	17.2
One to two hours	34.3	33.0	33.8	34.9	36.6	34.2	34.3	35.5	35.0	35.0	34.8	34.1	37.4	35.8	33.5	31.0	31.0	28.5	28.9	29.8	27.2
Three to six hours	25.5	29.0	30.3	31.3	28.6	29.3	30.4	29.6	28.9	27.4	28.1	29.3	26.9	27.3	25.6	24.9	24.4	23.4	22.7	23.7	25.3
Seven to 24 hours	2.9	2.6	3.0	2.7	3.0	3.3	2.7	2.9	3.3	3.4	2.6	2.7	3.2	2.5	2.2	3.2	3.5	3.6	3.2	3.1	4.0
More than 24 hours	0.2	0.2	0.3	0.1	0.2	0.2	0.1	0.3	0.2	0.2	0.3	0.4	0.2	0.1	0.2	0.2	0.5	0.2	0.2	0.4	0.4
Approx. N=	2834	2751	2928	3532	3142	3109	3393	3431	3252	3124	3110	2990	3177	3226	2712	2477	2441	2558	2616	2525	2496

NOTE: '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

[a]These questions appear in just one form. They are asked only of respondents who report use of the drug in the prior twelve months (i.e., "recent users").

Chapter 8

ATTITUDES AND BELIEFS ABOUT DRUGS

When this study was launched in 1975, we allocated a considerable amount of questionnaire content to the measurement of certain attitudes and beliefs related to drug use—ones which we believed might prove important in explaining young people's use of drugs. Over the years, this has proven to be a particularly fruitful investment.

In this section we present the cross-time results for three of these sets of attitude and belief questions. One set concerns students' beliefs about how harmful the various kinds of drug use are for the user; the second concerns the degree to which students personally disapprove of various kinds of drug use; and the third, asked only of seniors, deals with their attitudes about various forms of legal prohibition. Chapter 9 will present results on the closely related topics of parents' and friends' attitudes about drugs, as students perceive them.

As the data below show, overall percentages of students disapproving various drugs, and the percentages believing their use to involve serious risk are inversely related to the percentages of actual users. For example, of the illicit drugs, marijuana is the most frequently used and one of the least likely to be seen as risky to use. This and many other such parallels suggest that the individuals who believe that the use of a drug involves risk of harm are less likely to use it, and also more likely to disapprove of its use. A series of individual-level analyses of these data confirms this conclusion: strong correlations exist between individuals' use of drugs and their various attitudes and beliefs about those drugs. Those seniors who use a given drug also are less likely to disapprove its use or to see it as dangerous, and they are more likely to report their own parents and friends as being accepting of its use.

Many of the attitudes and beliefs about drug use reported below changed dramatically during the life of the study, along with actual drug-using behaviors. Beginning in 1979, scientists, policy makers, and in particular the electronic and printed media, gave considerable attention to the increasing levels of regular marijuana use among young people, and to the potential hazards associated with such use. As will be seen below, attitudes and beliefs about regular use of marijuana shifted in a more conservative direction after 1979—a shift which coincided with a reversal in the previous rapid rise of daily use, and which very likely reflects the impact of this increased public attention. Between 1986 and 1987, a similar and even more dramatic shift began to occur for cocaine and continued for some years. In the last four years, however, there has been some turnaround in these attitudes, accompanied by an increase in the use of a number of illicit drugs.

PERCEIVED HARMFULNESS OF DRUGS

Beliefs about Harmfulness Among Twelfth Graders

- A substantial majority of high school seniors perceive *regular* use of ***any of the illicit drugs*** as entailing "great risk" of harm for the user. As Table 20 shows, almost 90% of the seniors feel this way about regular use of ***cocaine, crack, cocaine powder***, and ***heroin***. The proportions attributing great risk to regular use of ***LSD,***

amphetamines, and ***barbiturates*** are 78%, 66%, and 62%, respectively.

- Regular use of ***marijuana*** is judged to involve great risk by 61% of the seniors.

- Two-thirds of all seniors (66%) judge regular use of ***cigarettes*** (i.e., one or more packs a day) as entailing a great risk of harm for the user.

- Regular use of ***alcohol*** is more explicitly defined in several questions providing greater specificity on the amount of use. A quarter of seniors (25%) associate great risk of harm with having one or two drinks nearly every day. Close to half (45%) think there is great risk involved in having five or more drinks once or twice each weekend. Nearly two-thirds (63%) think the user takes a great risk in consuming four or five drinks nearly every day. It is notable that more than one-third do not view even this pattern of regular heavy drinking as entailing great risk.

- Many fewer respondents feel that a person runs a "great risk" of harm by simply trying a drug once or twice—what we refer to as *experimental use*.

- Still, substantial proportions of high school seniors view even the experimental use of most illicit drugs as risky. The percentages associating great risk with experimental use rank as follows: 66% for ***steroids***, 55% for ***crack***, 54% for ***ice*** and ***cocaine***, 52% for ***cocaine powder***, 51% for ***heroin***, 49% for ***PCP***, 36% for ***LSD***, 29% for ***amphetamines***, 26% for ***barbiturates***, and 16% for ***marijuana***.

- Only 6% of seniors believe there is much risk involved in trying an ***alcoholic beverage*** once or twice.

Beliefs about Harmfulness Among Eighth and Tenth Graders

An abbreviated set of the same questions on harmfulness was asked of eighth and tenth graders beginning in 1991. Questions also were included about the perceived harmfulness of inhalants and smokeless tobacco (see Table 19). Perceived risk of ***LSD*** questions were added in 1993. Although the findings are quite similar to those for seniors in general, there are some interesting differences.

- The most important difference is observed for ***regular cigarette smoking***. It is an unfortunate fact that perceived risk is lowest at the ages where initiation is most likely to occur; while two-thirds of seniors (66%) see great risk in pack-a-day smoking, fewer (57%) of the tenth graders and only one-half (50%) of the eighth graders do.

- Regular use of ***smokeless tobacco*** is viewed as entailing great risk by slightly more than one-third (34%) of eighth grade students, 38% of

TABLE 19

Trends in Harmfulness of Drugs as Perceived by Eighth, Tenth, and Twelfth Graders, 1991–95

Percentage saying "great risk"[a]

Q. How much do you think people risk harming themselves (physically or in other ways), if they . . .	8th Grade						10th Grade						12th Grade					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Try marijuana once or twice	40.4	39.1	36.2	31.6	28.9	-2.7ss	30.0	31.9	29.7	24.4	21.5	-2.9sss	27.1	24.5	21.9	19.5	16.3	-3.2s
Smoke marijuana occasionally	57.9	56.3	53.8	48.6	45.9	-2.7ss	48.6	48.9	46.1	38.9	35.4	-3.5sss	40.6	39.6	35.6	30.1	25.6	-4.5ss
Smoke marijuana regularly	83.8	82.0	79.6	74.3	73.0	-1.3	82.1	81.1	78.5	71.3	67.9	-3.4ss	78.6	76.5	72.5	65.0	60.8	-4.2s
Try inhalants once or twice	35.9	37.0	36.5	37.9	36.4	-1.5	37.8	38.7	40.9	42.7	41.6	-1.1	—	—	—	—	—	—
Try inhalants regularly	65.6	64.4	64.6	65.5	64.8	-0.7	69.8	67.9	69.6	71.5	71.8	+0.3	—	—	—	—	—	—
Take LSD once or twice[b]	—	—	42.1	38.3	36.7	-1.6	—	—	48.7	46.5	44.7	-1.8	46.6	42.3	39.5	38.8	36.4	-2.4
Take LSD regularly[b]	—	—	68.3	65.8	64.4	-1.4	—	—	78.9	75.9	75.5	-0.4	84.3	81.8	79.4	79.1	78.1	-1.0
Try crack once or twice	62.8	61.2	57.2	54.4	50.8	-3.6sss	70.4	69.6	66.6	64.7	60.9	-3.8sss	60.6	62.4	57.6	58.4	54.6	-3.8s
Take crack occasionally	82.2	79.6	76.8	74.4	72.1	-2.3s	87.4	86.4	84.4	83.1	81.2	-1.9ss	76.5	76.3	73.9	73.8	72.8	-1.0
Try cocaine powder once or twice	55.5	54.1	50.7	48.4	44.9	-3.5sss	59.1	59.2	57.5	56.4	53.5	-2.9sss	53.6	57.1	53.2	55.4	52.0	-3.4
Take cocaine powder occasionally	77.0	74.3	71.8	69.1	66.4	-2.7s	82.2	80.1	79.1	77.8	75.6	-2.2ss	69.8	70.8	68.6	70.6	69.1	-1.5
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	11.0	12.1	12.4	11.6	11.6	0.0	9.0	10.1	10.9	9.4	9.3	-0.1	9.1	8.6	8.2	7.6	5.9	-1.7s
Take one or two drinks nearly every day	31.8	32.4	32.6	29.9	30.5	+0.6	36.1	36.8	35.9	32.5	31.7	-0.8	32.7	30.6	28.2	27.0	24.8	-2.2
Have five or more drinks once or twice each weekend	59.1	58.0	57.7	54.7	54.1	-0.6	54.7	55.9	54.9	52.9	52.0	-0.9	48.6	49.0	48.3	46.5	45.2	-1.3
Smoke one or more packs of cigarettes per day	51.6	50.8	52.7	50.8	49.8	-1.0	60.3	59.3	60.7	59.0	57.0	-2.0s	69.4	69.2	69.5	67.6	65.6	-2.0
Use smokeless tobacco regularly	35.1	35.1	36.9	35.5	33.5	-2.0	40.3	39.6	44.2	42.2	38.2	-4.0sss	37.4	35.5	38.9	36.6	33.2	-3.4s
Take steroids[c]	64.2	69.5	70.2	67.6	—	—	67.1	72.7	73.4	72.5	—	—	65.6	70.7	69.1	66.1	66.4	+0.3
Approx. N =	*17437*	*18662*	*18366*	*17394*	*17501*		*14719*	*14808*	*15298*	*15880*	*17006*		*2549*	*2684*	*2759*	*2591*	*2603*	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
SOURCE: Monitoring the Future Study, the University of Michigan.

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[a] Answer alternatives were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, (5) Can't say, drug unfamiliar.

[b] 8th and 10th grade: Data based on one of two forms; N is one-half of N indicated.

[c] 8th and 10th grade: Data based on two forms in 1991 and 1992 and on one of two forms in 1993 and 1994; N is one-half of N indicated.

tenth graders, and 33% of the seniors. Again, because this behavior is often initiated at early ages, these figures are disturbingly low.

- In contrast to tobacco use, the younger students are somewhat more likely than seniors to see ***marijuana*** use as dangerous.

- For ***cocaine powder*** and ***crack*** the tenth graders are most likely to see it as dangerous, and both the eighth and twelfth graders are less so.

- Eighth and tenth grade students are more likely than twelfth graders to see weekend ***binge drinking*** as dangerous, although their views on daily drinking and experimentation are not much different from seniors.

- Experimentation with ***inhalants*** is seen as dangerous by relatively low proportions of eighth graders (36%) and tenth graders (42%), which may well explain the widespread use of inhalants at these ages. (The question is not asked of twelfth graders.)

TRENDS IN PERCEIVED HARMFULNESS OF DRUGS

Trends in Perceived Harmfulness Among Twelfth Graders

Several very important trends in these beliefs about the dangers associated with using various drugs have occurred over the life of the study. (See Table 20 and Figures 21a through 31b.)

- Some of the most important trends have involved ***marijuana*** (Figure 21a). From 1975 through 1978 there was a decline in the degree of harmfulness perceived to be associated with all levels of marijuana use, and use increased sharply. In 1979, for the first time, there was an increase in the proportion seeing risk to the user. This increase, which preceded an appreciable downturn in use, continued fairly steadily through 1991 as use fell dramatically. However, in 1992 perceived risk began to drop, and while use continued to fall that year, the drop in perceived risk presaged a sharp increase in use which began in 1993. Perceived risk has continued to drop since 1992 and use has continued to rise since 1993. (See Figure 24.) We believe these changes in beliefs about the harmfulness of marijuana played a critical role in causing a turnaround in use. In this case, the decrease in perceived risk preceded the change in behavior by a year. In 1995 perceived risk declined significantly for all levels of use. The rise in actual use, which had accelerated in 1994 reflecting the large drop in perceived risk, also increased significantly in 1995.

- In the earlier years of this study, the most impressive increase (in absolute terms) in perceived risk occurred for ***regular marijuana use***.

TABLE 20
Long-Term Trends in Harmfulness of Drugs as Perceived by Twelfth Graders

Q	Percentage saying "great risk"[a]																					
How much do you think people risk harming themselves (physically or in other ways), if they . . .	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Try marijuana once or twice	15.1	11.4	9.5	8.1	9.4	10.0	13.0	11.5	12.7	14.7	14.8	15.1	18.4	19.0	23.6	23.1	27.1	24.5	21.9	19.5	16.3	-3.2s
Smoke marijuana occasionally	18.1	15.0	13.4	12.4	13.5	14.7	19.1	18.3	20.6	22.6	24.5	25.0	30.4	31.7	36.5	36.9	40.6	39.6	35.6	30.1	25.6	-4.5ss
Smoke marijuana regularly	43.3	38.6	36.4	34.9	42.0	50.4	57.6	60.4	62.8	66.9	70.4	71.3	73.5	77.0	77.5	77.8	78.6	76.5	72.5	65.0	60.8	-4.2s
Try LSD once or twice	49.4	45.7	43.2	42.7	41.6	43.9	45.5	44.9	44.7	45.4	43.5	42.0	44.9	45.7	46.0	44.7	46.6	42.3	39.5	38.8	36.4	-2.4
Take LSD regularly	81.4	80.8	79.1	81.1	82.4	83.0	83.5	83.5	83.2	83.8	82.9	82.6	83.8	84.2	84.3	84.5	84.3	81.8	79.4	79.1	78.1	-1.0
Try PCP once or twice	—	—	—	—	—	—	—	—	—	—	—	—	55.6	58.8	56.6	55.2	51.7	54.8	50.8	51.5	49.1	-2.4
Try cocaine once or twice	42.6	39.1	35.6	33.2	31.5	31.3	32.1	32.8	33.0	35.7	34.0	33.5	47.9	51.2	54.9	59.4	59.4	56.8	57.6	57.2	53.7	-3.5s
Take cocaine occasionally	—	—	—	—	—	—	—	—	—	—	—	54.2	66.8	69.2	71.8	73.9	75.5	75.1	73.3	73.7	70.8	-2.9
Take cocaine regularly	73.1	72.3	68.2	68.2	69.5	69.2	71.2	73.0	74.3	78.8	79.0	82.2	88.5	89.2	90.2	91.1	90.4	90.2	90.1	89.3	87.9	-1.4
Try crack once or twice	—	—	—	—	—	—	—	—	—	—	—	—	57.0	62.1	62.9	64.3	60.6	62.4	57.6	58.4	54.6	-3.8s
Take crack occasionally	—	—	—	—	—	—	—	—	—	—	—	—	70.4	73.2	75.3	80.4	76.5	76.3	73.9	73.8	72.8	-1.0
Take crack regularly	—	—	—	—	—	—	—	—	—	—	—	—	84.6	84.8	85.6	91.6	90.1	89.3	87.5	89.6	88.6	-1.0
Try cocaine powder once or twice	—	—	—	—	—	—	—	—	—	—	—	—	45.3	51.7	53.8	53.9	53.6	57.1	53.2	55.4	52.0	-3.4
Take cocaine powder occasionally	—	—	—	—	—	—	—	—	—	—	—	—	56.8	61.9	65.8	71.1	69.8	70.8	68.6	70.6	69.1	-1.5
Take cocaine powder regularly	—	—	—	—	—	—	—	—	—	—	—	—	81.4	82.9	83.9	90.2	88.9	88.4	87.0	88.6	87.8	-0.8
Try heroin once or twice	60.1	58.9	55.8	52.9	50.4	52.1	52.9	51.1	50.8	49.8	47.3	45.8	53.6	54.0	53.8	55.4	55.2	50.9	50.7	52.8	50.9	-1.9
Take heroin occasionally	75.6	75.6	71.9	71.4	70.9	70.9	72.2	69.8	71.8	70.7	69.8	68.2	74.6	73.8	75.5	76.6	74.9	74.2	72.0	72.1	71.0	-1.1
Take heroin regularly	87.2	88.6	86.1	86.6	87.5	86.2	87.5	86.0	86.1	87.2	86.0	87.1	88.7	88.8	89.5	90.2	89.6	89.2	88.3	88.0	87.2	-0.8
Try amphetamines once or twice	35.4	33.4	30.8	29.9	29.7	29.7	26.4	25.3	24.7	25.4	25.2	25.1	29.1	29.6	32.8	32.2	36.3	32.6	31.3	31.4	28.8	-2.6
Take amphetamines regularly	69.0	67.3	66.6	67.1	69.9	69.1	66.1	64.7	64.8	67.1	67.2	67.3	69.4	69.8	71.2	71.2	74.1	72.4	69.9	67.0	65.9	-1.1
Try crystal meth. (ice) once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	61.6	61.9	57.5	58.3	54.4	-3.9s
Try barbiturates once or twice	34.8	32.5	31.2	31.3	30.7	30.9	28.4	27.5	27.0	27.4	26.1	25.4	30.9	29.7	32.2	32.4	35.1	32.2	29.2	29.9	26.3	-3.6s
Take barbiturates regularly	69.1	67.7	68.6	68.4	71.6	72.2	69.9	67.6	67.7	68.5	68.3	67.2	69.4	69.6	70.5	70.2	70.5	70.2	66.1	63.3	61.6	-1.7
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	5.3	4.8	4.1	3.4	4.1	3.8	4.6	3.5	4.2	4.6	5.0	4.6	6.2	6.0	6.0	8.3	9.1	8.6	8.2	7.6	5.9	-1.7s
Take one or two drinks nearly every day	21.5	21.2	18.5	19.6	22.6	20.3	21.6	21.6	21.6	23.0	24.4	25.1	26.2	27.3	28.5	31.3	32.7	30.6	28.2	27.0	24.8	-2.2
Take four or five drinks nearly every day	63.5	61.0	62.9	63.1	66.2	65.7	64.5	65.5	66.8	68.4	69.8	66.5	69.7	68.5	69.8	70.9	69.5	70.5	67.8	66.2	62.8	-3.4s
Have five or more drinks once or twice each weekend	37.8	37.0	34.7	34.5	34.9	35.9	36.3	36.0	38.6	41.7	43.0	39.1	41.9	42.6	44.0	47.1	48.6	49.0	48.3	46.5	45.2	-1.3
Smoke one or more packs of cigarettes per day	51.3	56.4	58.4	59.0	63.0	63.7	63.3	60.5	61.2	63.8	66.5	66.0	68.6	68.0	67.2	68.2	69.4	69.2	69.5	67.6	65.6	-2.0
Use smokeless tobacco regularly	—	—	—	—	—	—	—	—	—	—	—	25.8	30.0	33.2	32.9	34.2	37.4	35.5	38.9	36.6	33.2	-3.4s
Take steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	63.8	69.9	65.6	70.7	69.1	66.1	66.4	+0.3
Approx. N =	*2804*	*2918*	*3052*	*3770*	*3250*	*3234*	*3604*	*3557*	*3305*	*3262*	*3250*	*3020*	*3315*	*3276*	*2796*	*2553*	*2549*	*2684*	*2759*	*2591*	*2603*	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Answer alternatives were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, drug unfamiliar.

The proportion of seniors who viewed regular marijuana use as involving a great risk doubled in just seven years, from 35% in 1978 to 70% in 1985. Subsequently, the proportion continued to increase more slowly, reaching 79% in 1991. The dramatic change between those years occurred during a period when a substantial amount of scientific and media attention was devoted to the potential dangers of heavy marijuana use. Young people also had ample opportunity for vicarious learning about the effects of heavy use through observation, because such use was so widespread among their peers. (Recall that one in nine seniors was an active daily marijuana user in 1978.) Concerns about the harmfulness of occasional and even experimental use also increased, and they were even larger in proportional terms, though not in absolute terms. For example, the proportion of seniors seeing great risk in ***trying marijuana*** rose from 8% in 1978 to 27% in 1991, and for ***occasional marijuana use*** from 12% to 41% over the same interval.

There are several possible explanations for the recent turnaround and decline in perceived risk. First, some of the forces which gave rise to the earlier increases in perceived risk have become less influential: (1) because of lower use rates overall, fewer of today's students have opportunities for vicarious learning by observing firsthand the effects of heavy marijuana use among their peers; (2) media coverage of harmful effects of drugs, and of incidents resulting from drug use (particularly marijuana), has decreased substantially in recent years; and (3) media coverage of the anti-drug advertising campaign of the Partnership for a Drug-Free America also has declined appreciably. In addition, some forces encouraging use have become more visible; in particular a number of rap groups, grunge groups, and other rock groups, have started to sing the praises of marijuana (and sometimes other drugs), which may cause youngsters to think that it must not be so dangerous after all. Finally, the fact that many of the parents of today's teenagers are themselves drug-experienced may inhibit some discussions of drugs with children, because some parents are uncomfortable about how to handle the apparent hypocrisy of telling their children not to do what they themselves did as teens. We believe that all of these factors may be contributing to the current resurgence in marijuana use.

- Trends in the perceived risk of regular marijuana use and in 30-day prevalence of use are combined in Figure 24 in order to illustrate more clearly their degree of covariance over time, which we interpret as reflecting a causal connection.[33] The trend line for the perceived availability of marijuana is included in Figure 24 to show its lack of covariance with use, and thus its inability to explain the downturn.

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[33] We have addressed an alternate hypothesis that a general shift toward a more conservative lifestyle might account for the shifts in both attitudes and behaviors. The empirical evidence tended to contradict that hypothesis. Bachman, J.G., Johnston, L.D., O'Malley, P.M., & Humphrey, R.H. (1988). Explaining the recent decline in marijuana use: Differentiating the effects of perceived risks, disapproval, and general lifestyle factors, *Journal of Health and Social Behavior, 29*: 92-112. Johnston also showed that an increasing proportion of the quitters and abstainers from marijuana use reported concern over the physical and psychological consequences of use as reasons for their non-use. Johnston, L.D. (1982). A review and analysis of recent changes in marijuana use by American young people, in *Marijuana: The national impact on education* (pp. 8-13). New York: American

We have hypothesized that perceived risk operates not only directly on the individual's use, but also indirectly through its impact on personal disapproval. In turn, personal disapproval operates directly on use, and in the collective, indirectly by influencing peer norms. Presumably there is some lag in these indirect effects; while perceived risk began to fall in 1992, personal disapproval did not begin to decline for experimental marijuana use until 1993, when it dropped sharply and use rose sharply. These shifts all have continued through 1995.

- A similar cross-time profile of attitudes has emerged for ***cocaine*** (Figure 22a). First, the percentage who perceived great risk in ***trying cocaine*** once or twice dropped steadily from 43% to 31% between 1975 and 1980, a period of rapidly increasing use. However, rather than reversing sharply, as did perceived risk for marijuana, perceived risk for experimental cocaine use moved rather little for the next six years, 1980 to 1986, corresponding to a fairly stable period in actual use. Then in 1987 perceived risk for experimenting with cocaine jumped sharply from 34% to 48% in a single year and in that year the first significant decline in use took place. (See Figure 25.) From 1987 to 1990 it continued to rise as use fell. Perceived risk for cocaine reached a peak around 1990 or 1991, and then decreased slightly. In 1995 there was a significant decline in perceived risk of trying cocaine. Trends in attitudes toward ***crack*** and ***cocaine powder*** have been similar to those of cocaine. Crack has shown the greatest decline in perceived risk, with the proportion of seniors reporting great risk associated with experimental use falling from 64% in 1990 to 55% by 1995.

  We believe these changes in beliefs had an important impact on behavior. As Figure 22a illustrates, perceived risk for ***regular cocaine use*** began to rise first, increasing gradually from 69% in 1980 to 82% in 1986; however, that change did not translate into a change in behavior, and we believe, the explanation is that very few high school seniors were regular users and most did not ever expect to be. Thus, as we had predicted earlier, it was not until seniors' attitudes about behaviors which they saw as relevant to themselves began to change (i.e., attitudes about experimental and occasional cocaine use) that the behaviors also began to shift.[34,35] Figure 25 shows trends in perceived

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Council on Marijuana.

[34] See also Bachman, J.G., Johnston, L.D., & O'Malley, P.M. (1990). Explaining the recent decline in cocaine use among young adults: Further evidence that perceived risks and disapproval lead to reduced drug use. *Journal of Health and Social Behavior, 31*: 173-184. For a discussion of perceived risk in the larger set of factors influencing trends, and for a consideration of the forces likely to influence perceived risk, see also, Johnston, L.D. (1991). Toward a theory of drug epidemics. *In* R.L. Donohew, H. Sypher, & W. Bukoski (Eds.) *Persuasive communication and drug abuse prevention* (pp. 93-132). Hillsdale, NJ: Lawrence Erlbaum.

risk, perceived availability, and actual use simultaneously–again, to illustrate shifts in perceived risk could explain the downturn in use while shifts in availability could not.

We attribute changes in actual cocaine use between 1986 and 1991 to changes in risk associated with experimental and occasional use. We believe the changes in these attitudes resulted from three factors: (1) the greatly increased media coverage of cocaine and its dangers which occurred in that interval (particularly in 1986), (2) an increasing number of anti-drug, and specifically anti-cocaine, "spots," and (3) the widely publicized deaths in 1986 of sports stars Len Bias and Don Rogers, attributed to their cocaine use. The death of the sports stars, we believe, helped to bring home the notions, first, that no one–regardless of age or physical condition–is invulnerable to being killed by cocaine, and second, that one does not have to be an addict or regular user to suffer such adverse consequences. Finally, the addictive potential of cocaine also was emphasized heavily in the media during that period, in large part due to the media frenzy over crack use.

As with marijuana, 1991 saw an end to the increase in the perceived risk of cocaine. Perceived risk began to fall after 1991, and after 1992 actual use began to rise (Figure 25). The significant reversal of trends in beliefs has set the stage for a resurgence in use, particularly when combined with the fact that the proportions of students using two of the "gateway drugs"—cigarettes and marijuana—also have been rising. Since 1992 the proportion of twelfth graders using cocaine in the prior 12 months has risen steadily from 3.1% to 4.0% in 1995. Both crack and cocaine powder have been showing a rise in use. As we shall see below, similar reversals are occurring at the eighth and tenth grade levels, as well, except that they are larger changes and started a year earlier among the eighth graders.

- For most of the illicit drugs other than marijuana and cocaine, the period from 1975 to 1979 revealed a modest but consistent trend in the direction of fewer seniors associating much risk with experimental or occasional use of them (see Table 20 and Figures 26a, 27a, 28a). This trend continued for ***amphetamines*** and ***barbiturates***, but not for other drugs, until about 1982.

  Over the next several years there was little change, although perceived risk of harm in experimental or occasional use of all the illicit drugs other than marijuana dropped slightly in 1985 and 1986. However, the perceived risk of experimental or occasional use increased for all drugs in 1987, reached a peak in 1990 or 1991, and then began to decline noticeably.

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[36] Our belief in the importance of perceived risk of experimental and occasional use of cocaine led us to include in 1986 for the first time the question about the dangers of occasional cocaine use.

- In sum, between 1975 and 1979 there was a distinct decline among seniors in perceived harmfulness associated with use of all the illicit drugs. After 1979, concerns about regular ***marijuana*** use increased dramatically, and concerns about the use of marijuana at less frequent levels increased considerably. After 1986 there was a sharp increase in the risks associated with ***cocaine*** use–particularly at the experimental and occasional use levels–and some increase in perceived risk for virtually all of the ***other illicit drugs*** (Figures 26a, 27a, 28a). Since 1991, the trends have reversed and fewer seniors see use of these drugs as being dangerous.

- The sharp decline in seniors' perceived risk for ***LSD*** in 1992 and 1993 has been particularly noteworthy, confirming our concern that attitudes of the newer generation of young people may not have been influenced by some of the direct and vicarious learning experiences that helped to make their predecessors more cautious about it (Figure 27a). In the late 1960s and early 1970s, young people became aware of the risks of bad trips, uncontrollable flashbacks, dangerous behaviors under the influence, etc. Today's youngsters know much less about those risks.

- The risks associated with use fell significantly for ***barbiturates*** after 1991, and for ***crystal methamphetamine*** (ice) after 1992. Perceived risk of trying either drug decreased significantly again in 1995.

- The perceived risk of trying ***PCP***, though very high relative to other drugs in 1988, fell by 10 percentage points from its peak level of 59% in 1988 to 49% in 1995. Again, we suspect that youngsters in more recent classes are simply much less familiar with the drug and its considerable dangers, compared with those who grew up in an earlier period.

- After showing little systematic change in the latter half of the 1970s, the perceived risks associated with ***alcohol use*** at various levels rose during the 1980s (though not as dramatically as the perceived risks associated with marijuana and cocaine). (See Figure 29a.) The proportions perceiving great risk of harm in having one or two drinks nearly every day rose from 20% in 1980 to 33% in 1991, but has decreased to 25% in 1995, perhaps in part due to the publicity about the value of moderate alcohol consumption in protecting against heart disease. The proportion perceiving great risk in having four or five drinks nearly every day rose slightly from 66% in 1980 to 71% in 1990, remained fairly stable through 1992, and then declined to 63% in 1995 (including a significant drop from 66% in 1994).

  The corresponding figures for ***occasional binge drinking*** (having five or more drinks once or twice a weekend) rose from 36% in 1980 to 49% in 1992, and then also decreased—to 47% by 1994. (Recall that the reported prevalence of occasional binge drinking declined from 41% in 1981 to 28% in 1993, and then rose slightly to 30% in 1995.) The increases in perceived risk tended to be followed by some declines in the actual behaviors, while the decreases in perceived risk tended to be followed by some increases—once again suggesting the importance of these beliefs in influencing behavior. The increase in perceived risk during the 1980s may have been due in large part to the many efforts aimed at discouraging drunk driving.

- Despite all that is known today about the health consequences of ***cigarette smoking***, about one-third (34%) of twelfth grade students still do not believe that there is a great risk in smoking a pack or more of cigarettes per day. (See Figure 30a.)

  Over a longer period, the number of seniors who thought ***pack-a-day cigarette smoking*** involved great risk to the user increased, from 51% in 1975 to 64% in 1980. This shift corresponded with, and to some degree preceded, the downturn in regular smoking found in this age group (compare Figures 9h and 30a). Between 1980 and 1984 this statistic showed no further increase, once again presaging the end of the decline in use. In the 11 year interval since 1984, the percent of seniors perceiving great risk in regular smoking has risen only about 2 percentage points.

- With regard to the regular use of smokeless tobacco, very few seniors report much risk (Figure 31a), although there was some increase (from 26% in 1986, when the belief was first measured) to 39% in 1993. Since 1993 such concerns have eased a bit, declining to 33% in 1995.

Trends in Perceived Harmfulness Among Eighth and Tenth Graders

- Data on perceived risk for eighth and tenth graders are not available for many of the drugs on which twelfth grade data are provided. However, for most of the illicit drugs about which they were asked, the eighth graders again showed troublesome declines in perceived risk: ***crack***, ***cocaine powder***, and ***marijuana*** (see Table 19 and Figures 21a, 23a). Indeed, the decreases in the perceived risk of marijuana, which have been occurring at least since 1991 for eighth graders and since 1992 for tenth graders have become very sharp. For eighth graders, perceived risk of trying marijuana dropped from 40% in 1991 to 29% in 1995. For tenth graders this same measure dropped from 30% in 1991 to 22% in 1995.

- Likewise, for ***crack*** and ***cocaine powder*** there has been a large drop in perceived risk since 1991 in the case of the eighth graders, and since 1992 among tenth graders (Table 19). Use of both drugs has been rising in the same intervals that perceived risk has been falling.

- Perceived risk of ***LSD*** use also has been declining in both grades since it was first measured in 1993 (Table 19).

- Because we see perceived risk as a central cause of the decline in various forms of illicit drug use, the softening in these beliefs is troublesome, and likely helps to explain the recent reversal of the downward trends in illicit drug use.

- The perceived dangers of ***inhalant*** use have held steady or actually increased since 1991, perhaps in part as a result of some public service initiatives aimed at warning young people about the very real dangers of inhalant use (Table 19).

- For ***steroids***, in 1992, a noteworthy and constructive change occurred across all three grade levels. There were increases of between 5 and 6 percentage points across the three grade levels in respondents saying there is a "great risk" to the user in taking steroids. Between 70% and 73% of each grade level reported great risk. This suggested that the widely-publicized experience of professional football player Lyle Alzado had an important effect on young people's beliefs about the damages of this drug. The effect this "unfortunate role model" had was very similar to that of Len Bias on beliefs about the dangers of cocaine, except that in Lyle Alzado's case he became aware of the health consequences of his drug use well before his death, and *intentionally* set about making his experience an object lesson for young people.[36] Unfortunately, this constructive development has not continued, and perceived risk slipped some after 1993.

- Even fewer of the eighth and tenth graders recognize the risk associated with regular ***cigarette smoking*** than do seniors (Figure 30a). Since 1993 perceived risk has decreased at all grade levels, as smoking rates have risen in all grade levels.

- The dangers associated with having five or more drinks of ***alcohol*** once or twice each weekend having been slipping since 1991 in the case of eighth graders and since 1992 in the case of tenth graders. Recall that self-reported binge drinking has been rising during those same recent time intervals.

- The risks perceived to be associated with the regular use of ***smokeless tobacco***, while never very high, have been declining fairly sharply at all three grade levels since 1993 (Table 19).

PERSONAL DISAPPROVAL OF DRUG USE

At the beginning of the Monitoring the Future study we also introduced a set of questions to measure the moral sentiment respondents attach to various types of drug use. The

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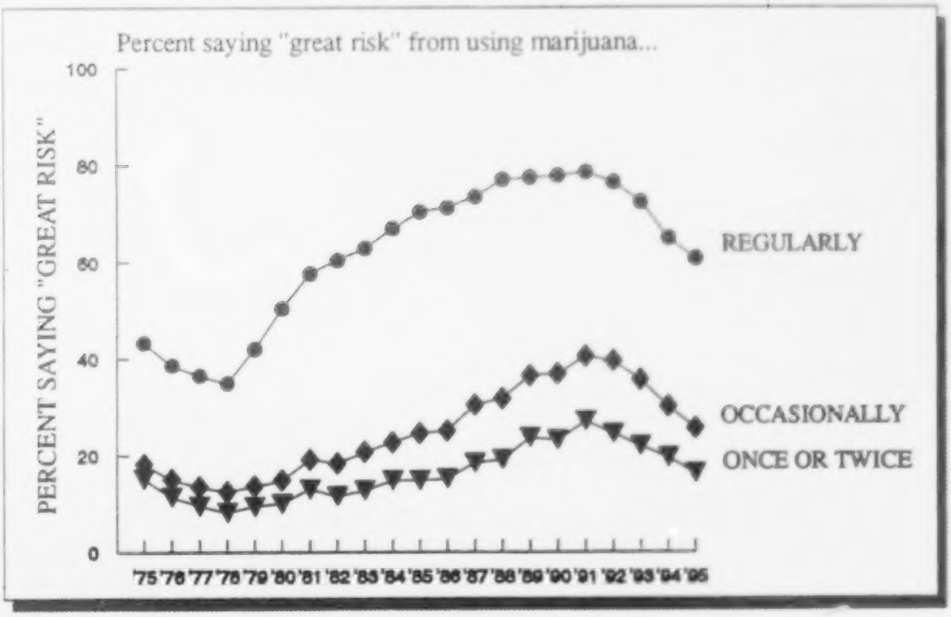
[36] For a discussion of the importance of vicarious learning from unfortunate role models see Johnston, L.D. (1991). Toward a theory of drug epidemics. *In* R.L. Donohew, H. Sypher, & W. Bukoski (Eds.), *Persuasive communication and drug abuse prevention* (pp. 133-156). Hillsdale, NJ: Lawrence Erlbaum.

FIGURE 21a

Trends in Perceived Harmfulness of Marijuana Use for Eighth, Tenth and Twelfth Graders

Twelfth Graders



Eighth, Tenth and Twelfth Graders

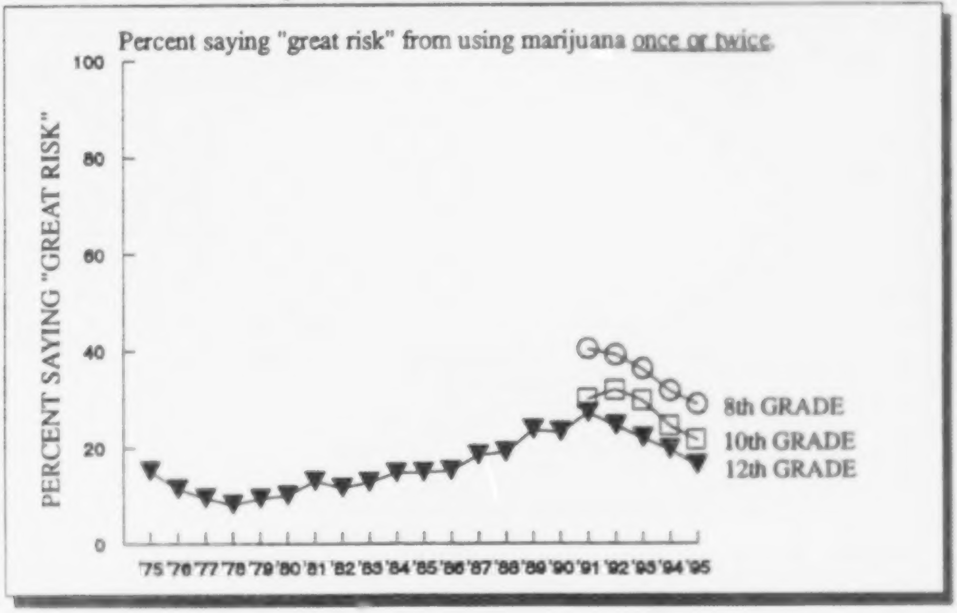
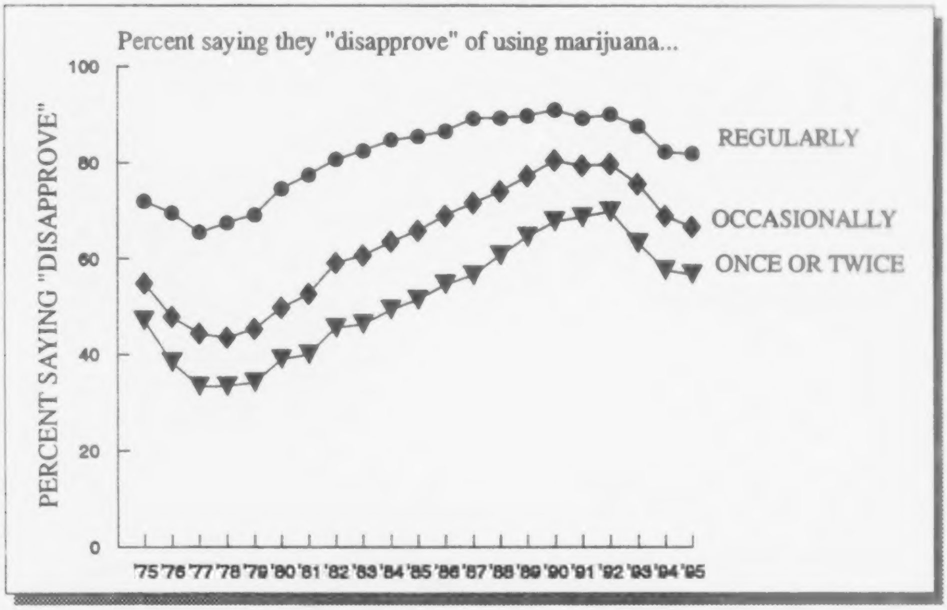


FIGURE 21b

Trends in Disapproval of Marijuana Use for Eighth, Tenth and Twelfth Graders

Twelfth Graders



Eighth, Tenth and Twelfth Graders

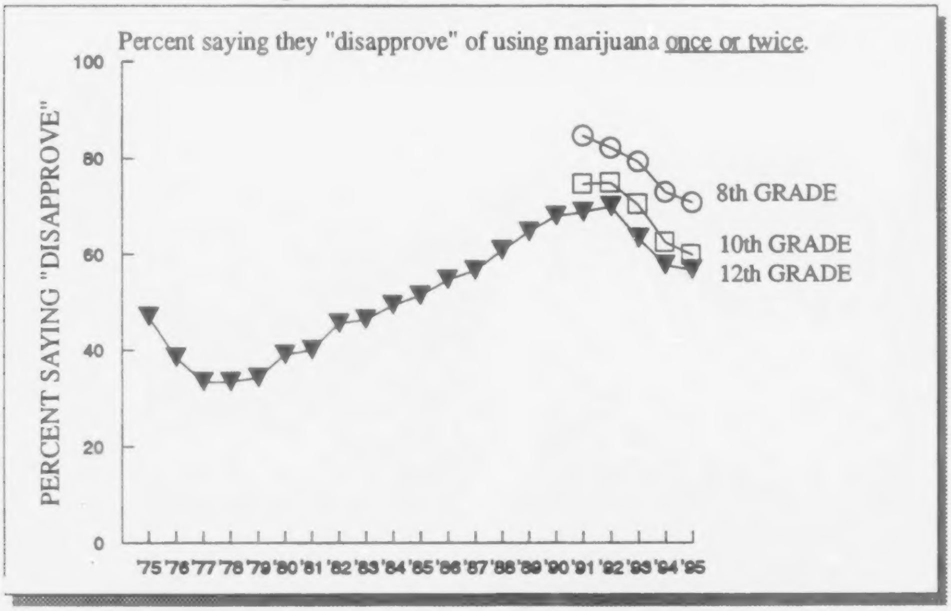
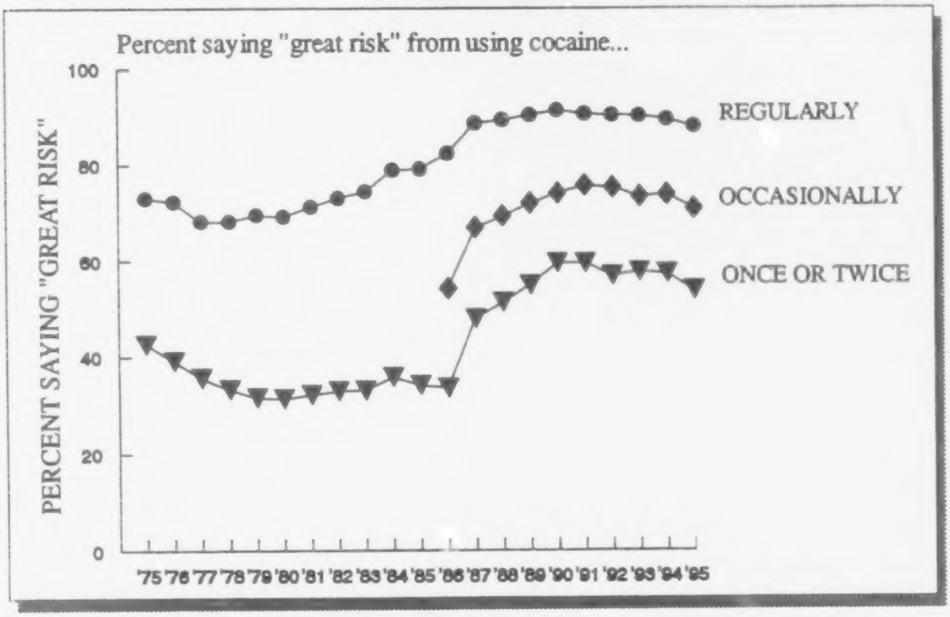


FIGURE 22a

Trends in Perceived Harmfulness of Cocaine Use for Twelfth Graders

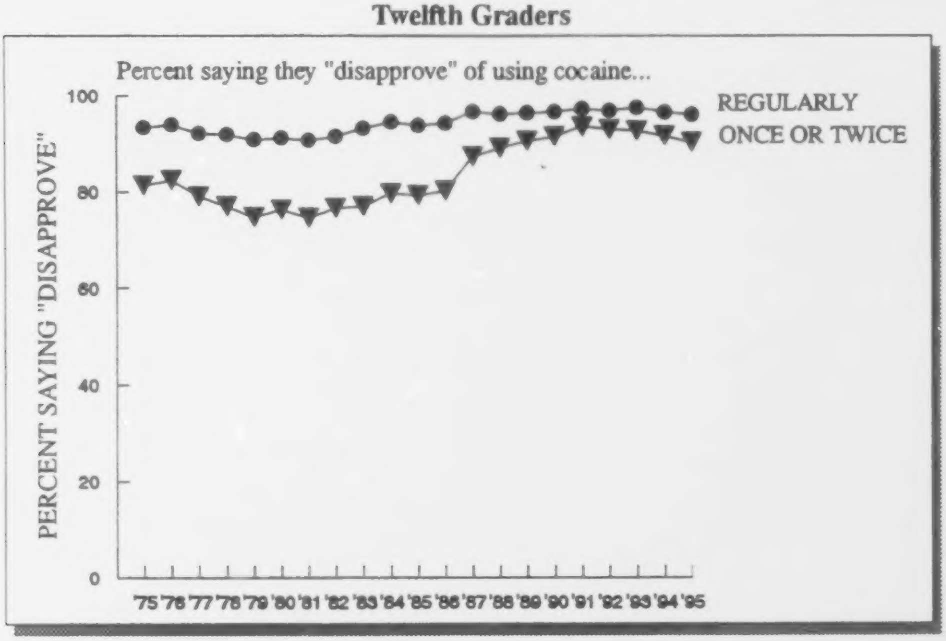
Twelfth Graders



NOTE: Data not available for Eighth and Tenth graders.

FIGURE 22b

Trends in Disapproval of Cocaine Use for Twelfth Graders

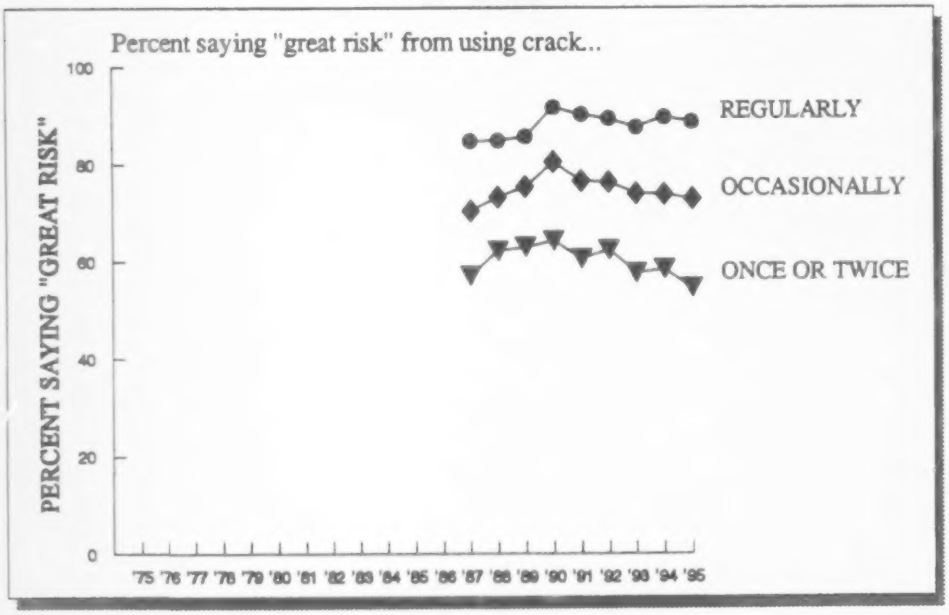


NOTE: Data not available for Eighth and Tenth graders.

FIGURE 23a

Trends in Perceived Harmfulness of Crack Use for Eighth, Tenth and Twelfth Graders

Twelfth Graders



Eighth, Tenth and Twelfth Graders

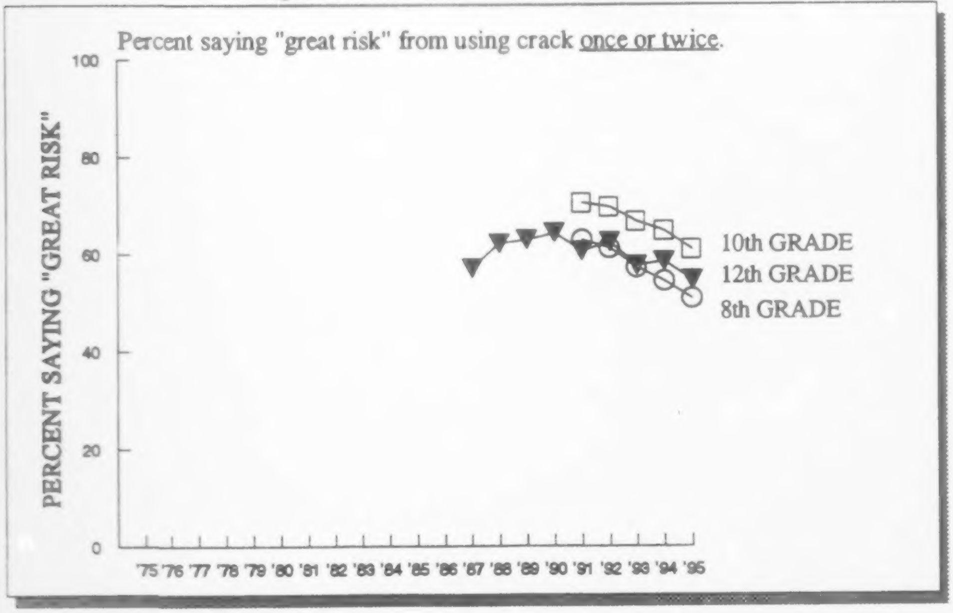
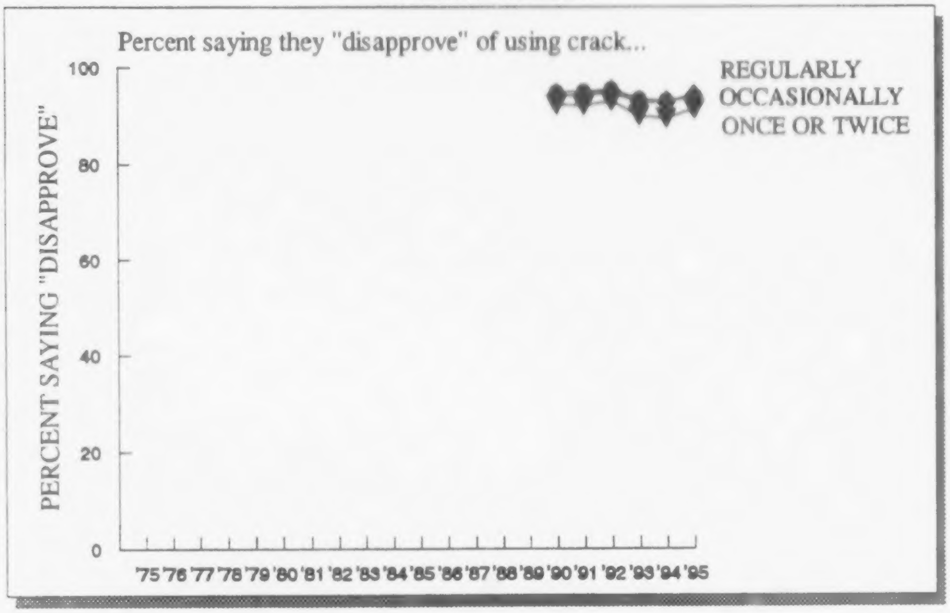


FIGURE 23b

Trends in Disapproval of Crack Use for Eighth, Tenth and Twelfth Graders

Twelfth Graders



Eighth, Tenth and Twelfth Graders

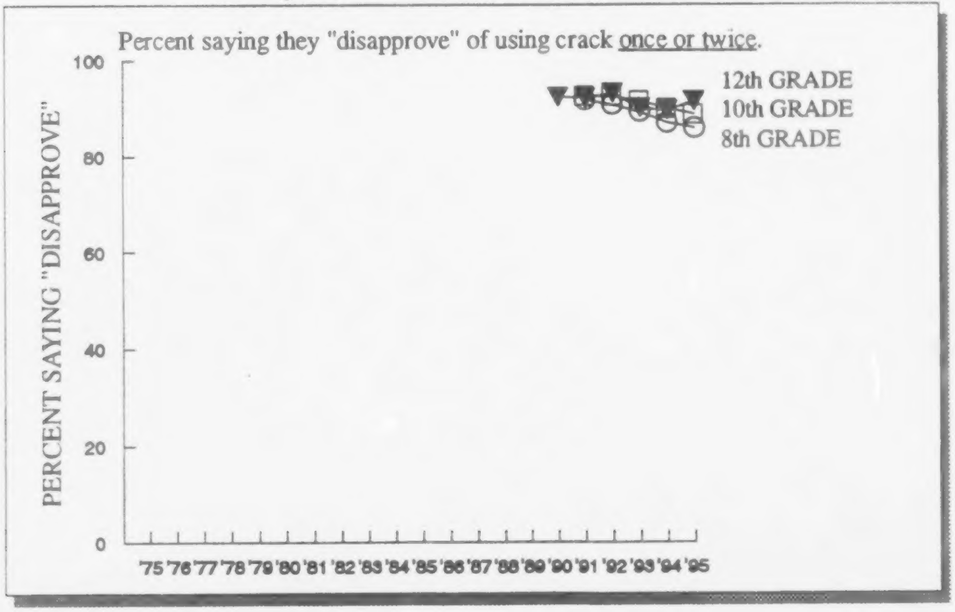


FIGURE 24

Marijuana: Trends in Perceived Availability, Perceived Risk of Regular Use, and Prevalence of Use in Past Thirty Days for Twelfth Graders

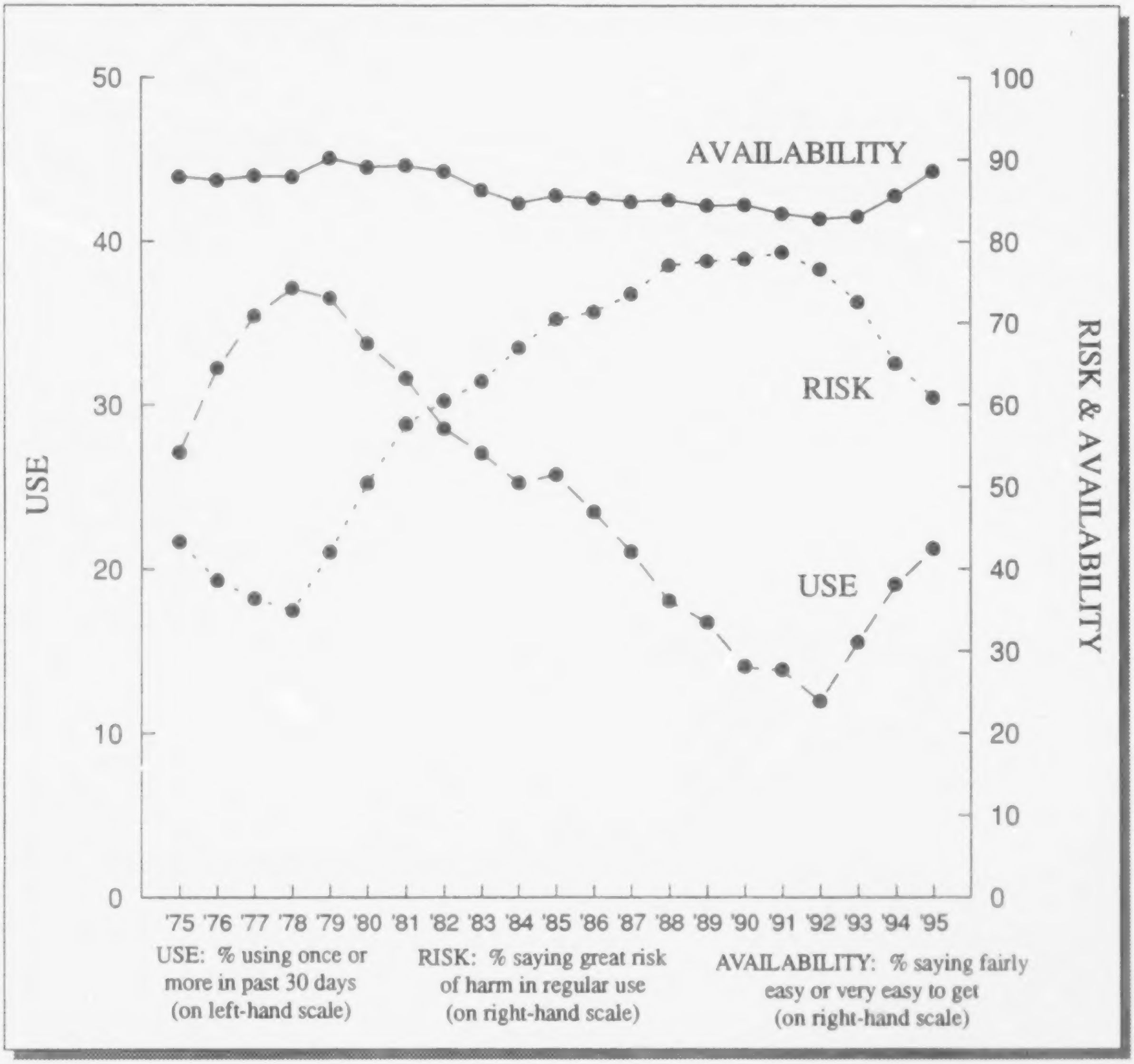
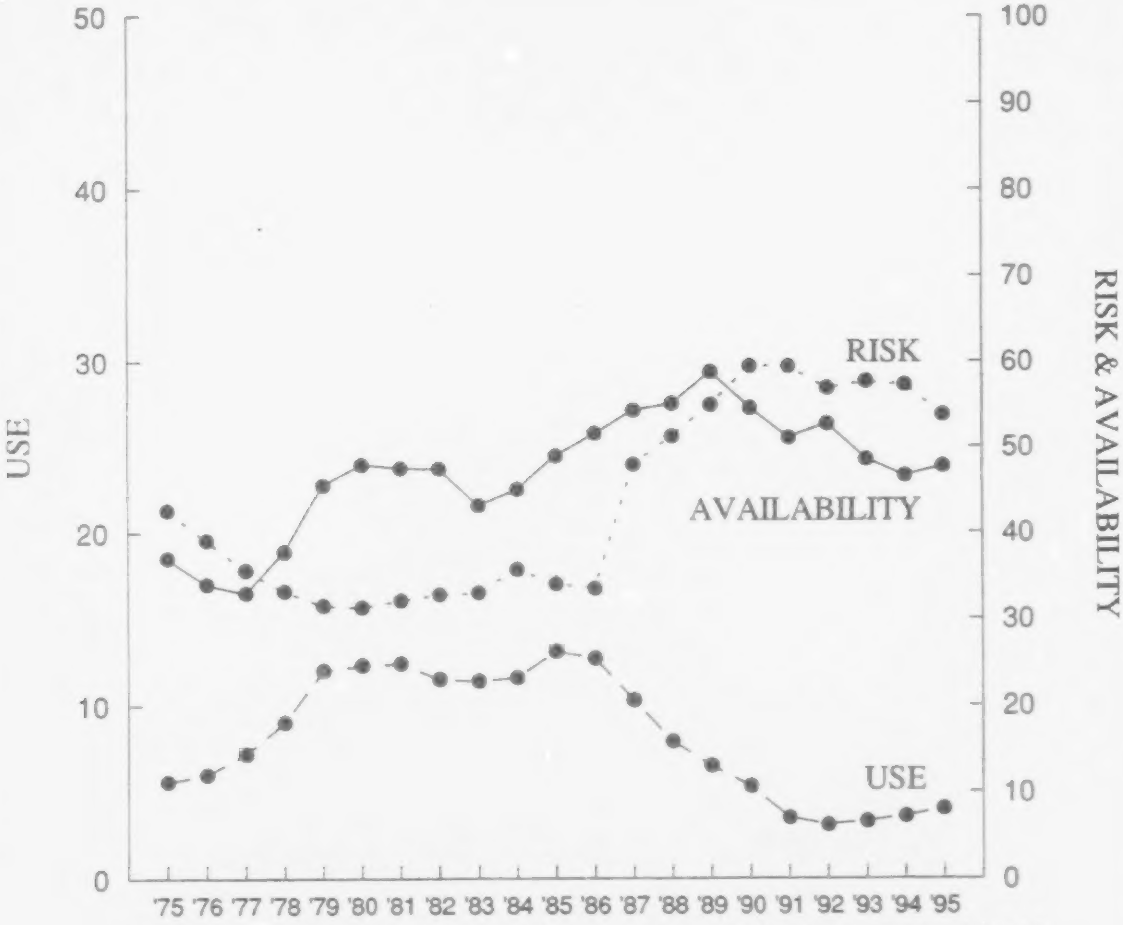


FIGURE 25

Cocaine: Trends in Perceived Availability, Perceived Risk of Trying, and Prevalence of Use in Past Year for Twelfth Graders



USE: % using once or more in past 12 months (on left-hand scale)

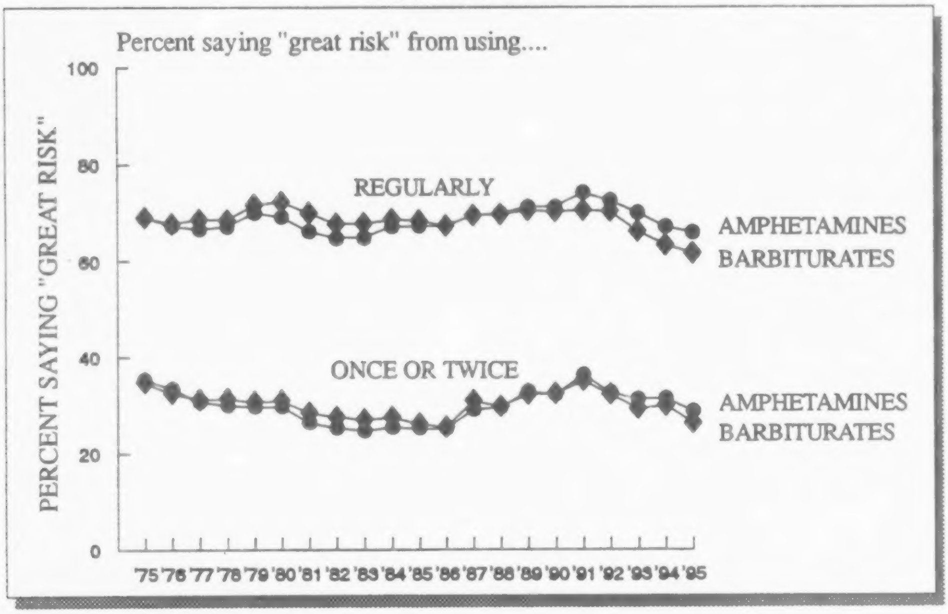
RISK: % saying great risk of harm in using once or twice (on right-hand scale)

AVAILABILITY: % saying fairly easy or very easy to get (on right-hand scale)

FIGURE 26a

Trends in Perceived Harmfulness of Amphetamine and Barbiturate Use for Twelfth Graders

Twelfth Graders



NOTE: Data not available for Eighth and Tenth graders.

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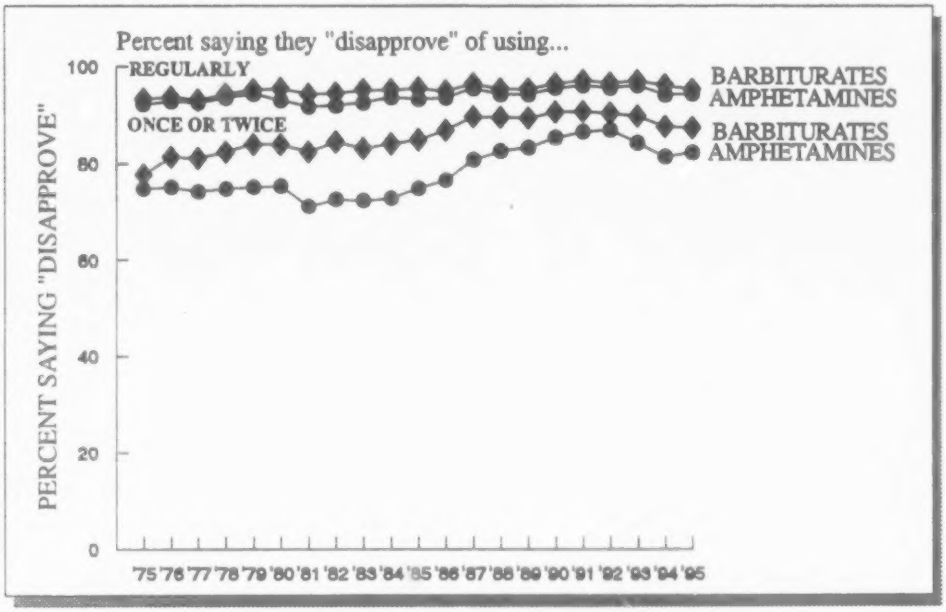
FIGURE 26b

Trends in Disapproval of Amphetamine and Barbiturate Use for Twelfth Graders

Twelfth Graders

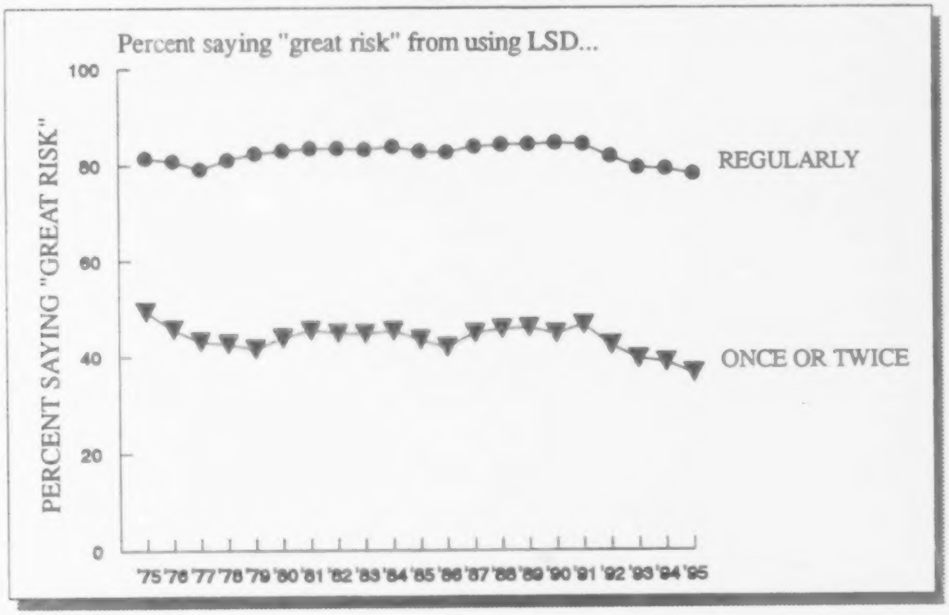


NOTE: Data not available for Eighth and Tenth graders.

FIGURE 27a

Trends in Perceived Harmfulness of LSD Use for Eighth, Tenth and Twelfth Graders

Twelfth Graders



Eighth, Tenth and Twelfth Graders

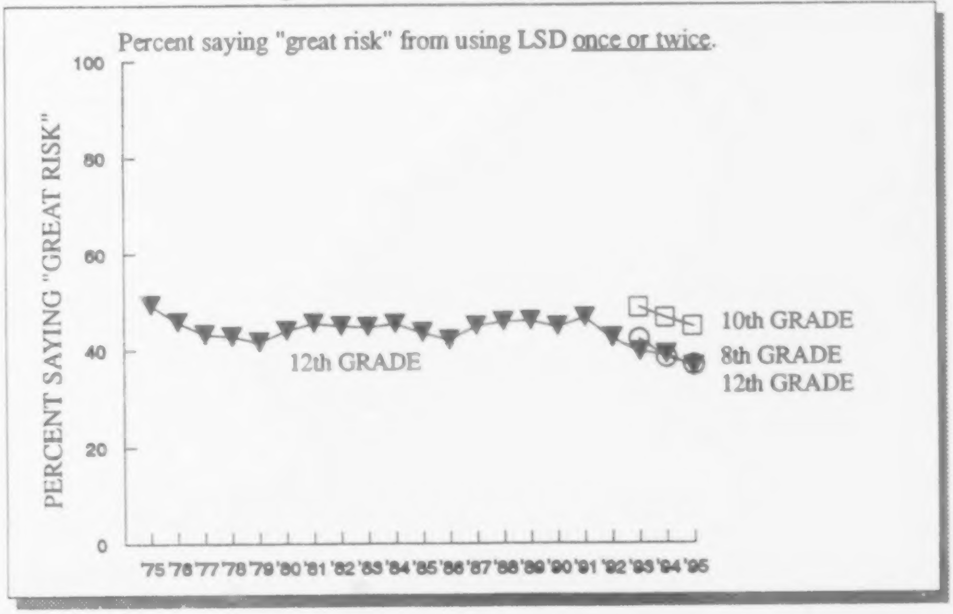
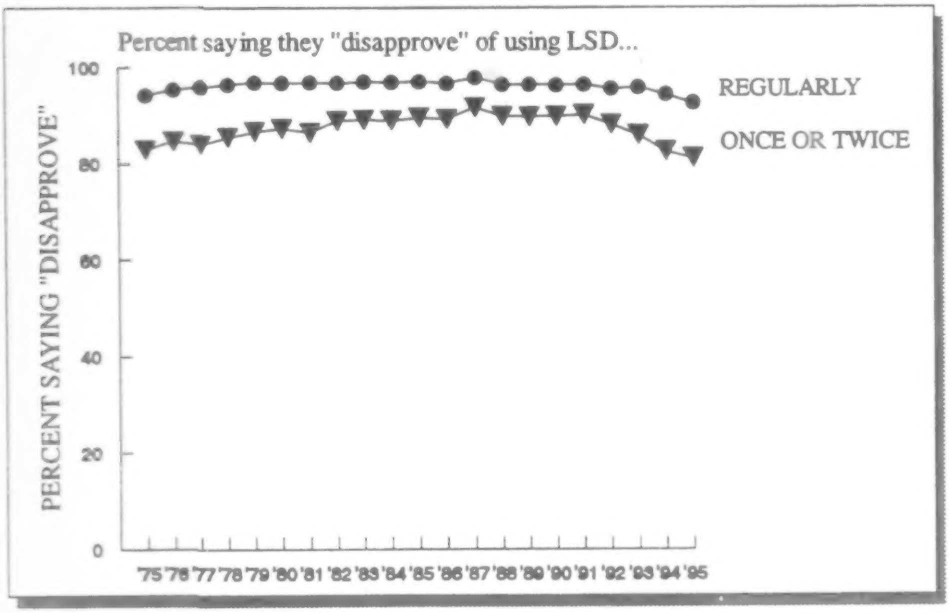


FIGURE 27b

Trends in Disapproval of LSD Use for Eighth, Tenth and Twelfth Graders

Twelfth Graders



Eighth, Tenth and Twelfth Graders

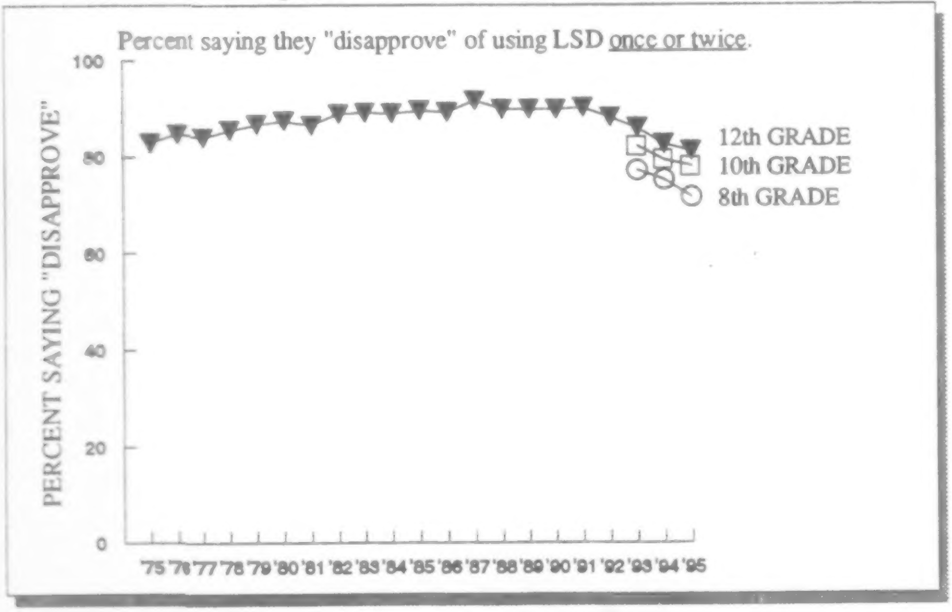
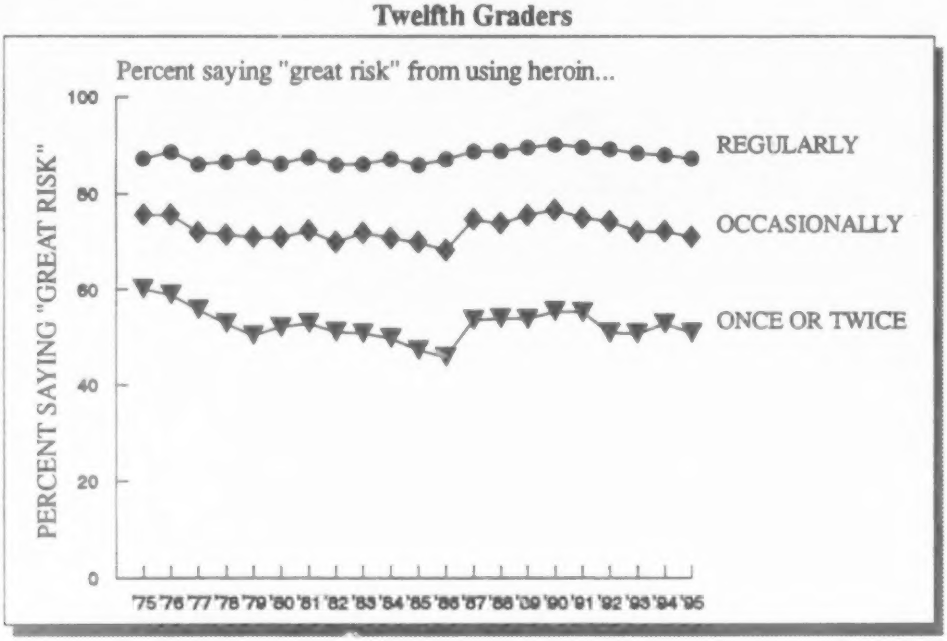


FIGURE 28a

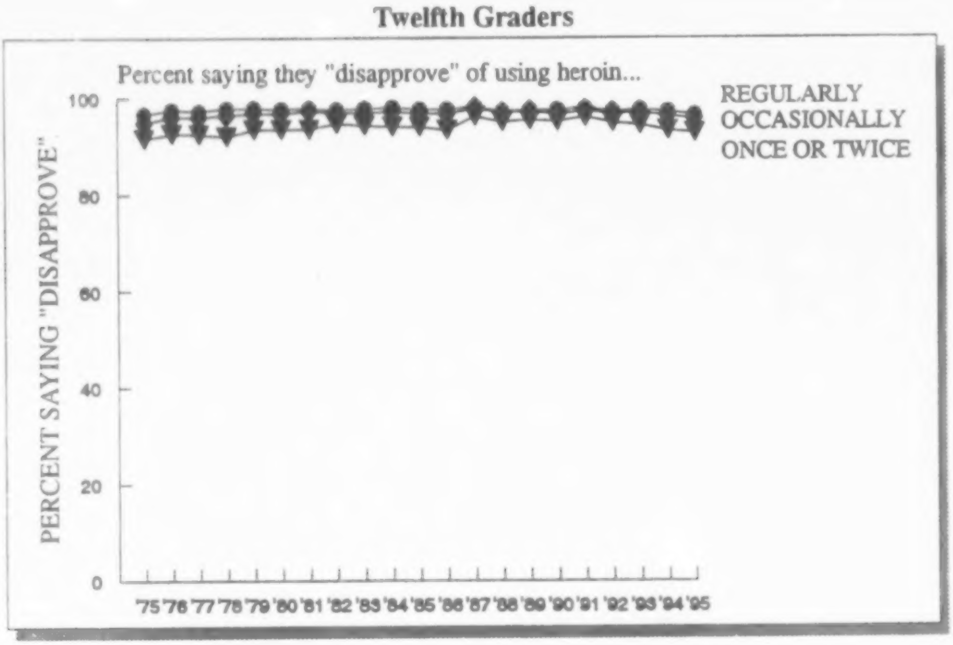
Trends in Perceived Harmfulness of Heroin Use for Twelfth Graders



NOTE: Data not available for Eighth and Tenth graders.

FIGURE 28b

Trends in Disapproval of Heroin Use for Twelfth Graders

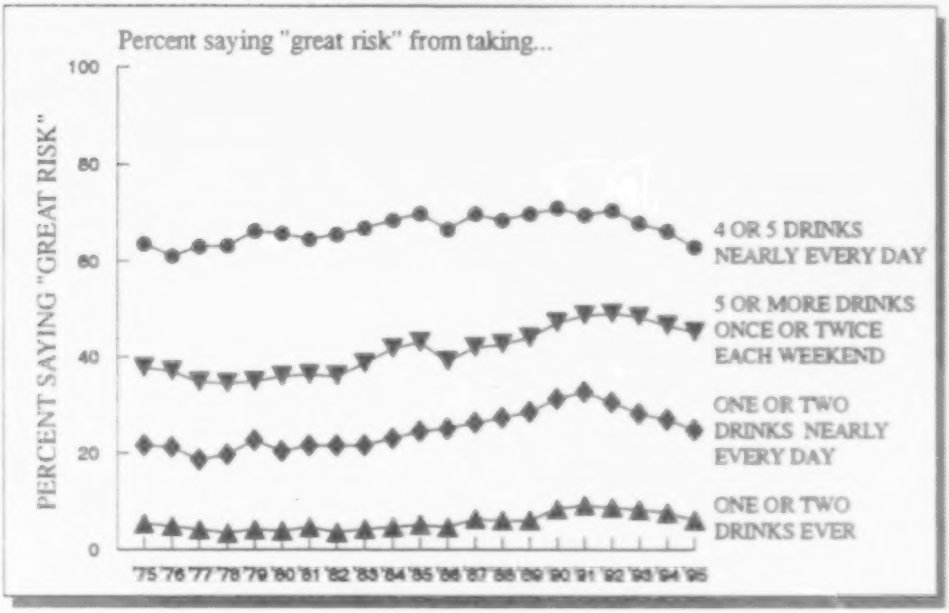


NOTE: Data not available for Eighth and Tenth graders.

FIGURE 29a

Trends in Perceived Harmfulness of Alcohol Use for Eighth, Tenth and Twelfth Graders

Twelfth Graders



Eighth, Tenth and Twelfth Graders

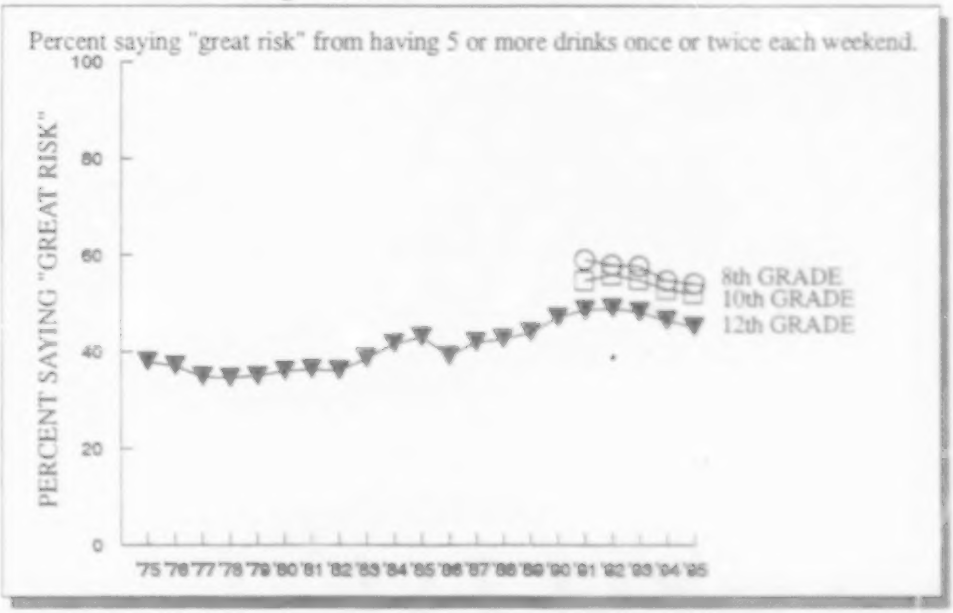
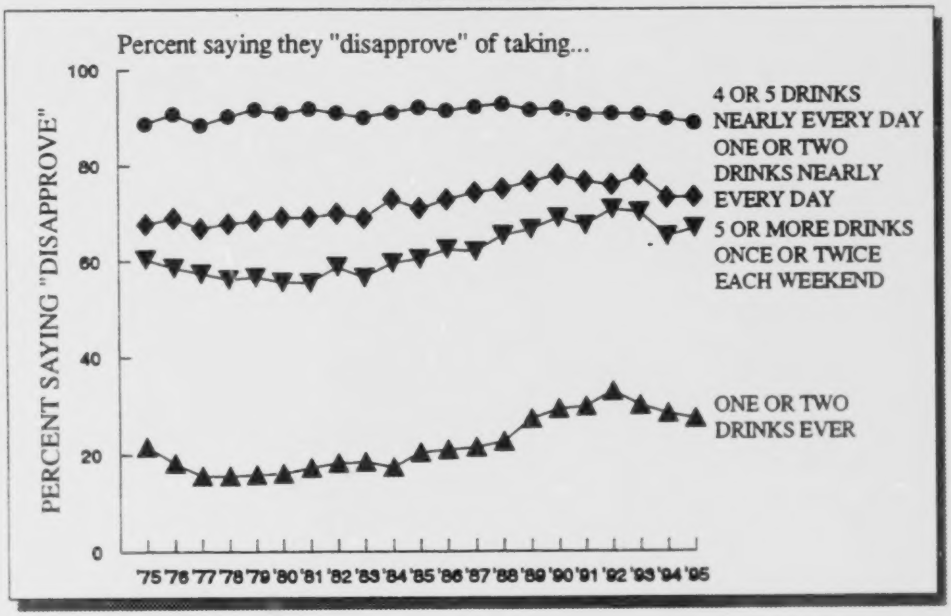


FIGURE 29b

Trends in Disapproval of Alcohol Use for Eighth, Tenth and Twelfth Graders

Twelfth Graders



Eighth, Tenth and Twelfth Graders

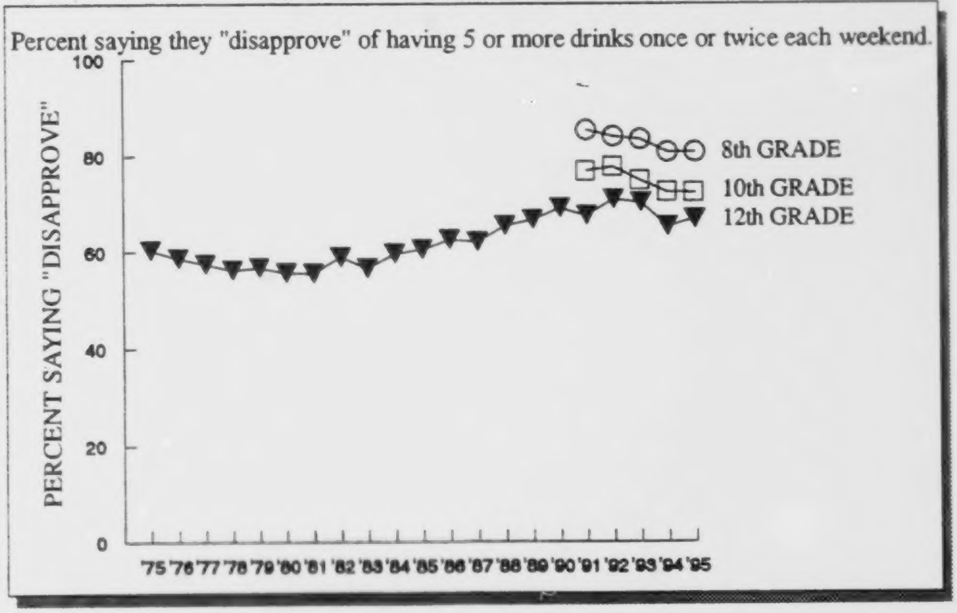


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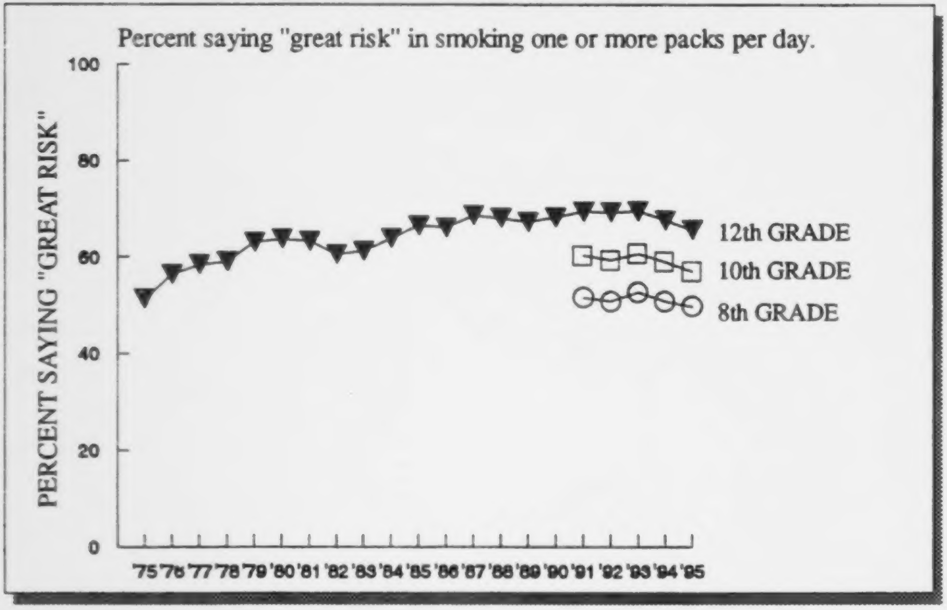
FIGURE 30a

Trends in Perceived Harmfulness of Smoking One or More Packs of Cigarettes per Day for Eighth, Tenth and Twelfth Graders



Eighth, Tenth and Twelfth Graders

FIGURE 30b

Trends in Disapproval of Smoking One or More Packs of Cigarettes per Day for Eighth, Tenth and Twelfth Graders

Eighth, Tenth and Twelfth Graders

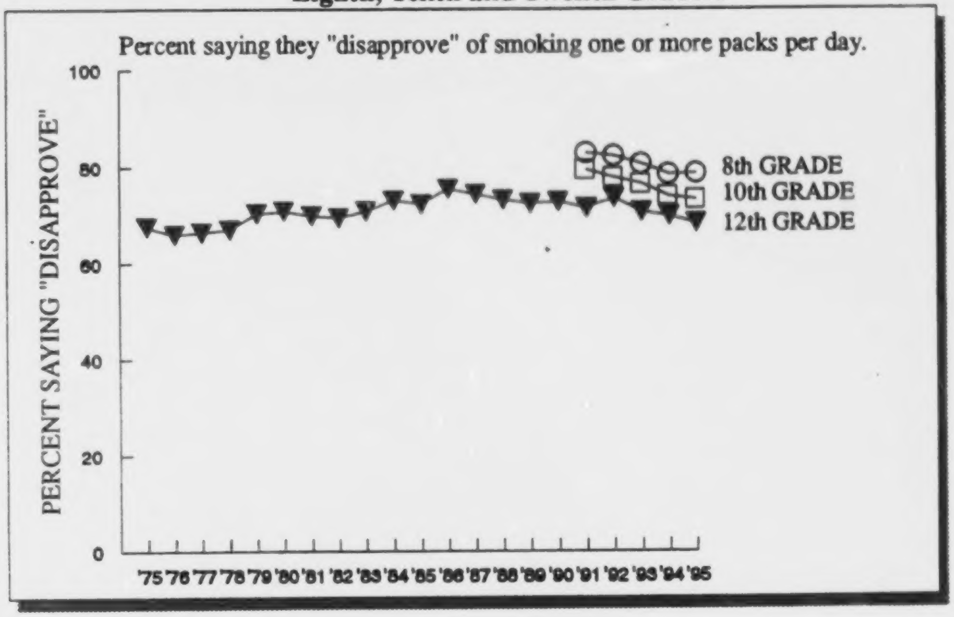


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FIGURE 31a

Trends in Perceived Harmfulness of Using Smokeless Tobacco Regularly for Eighth, Tenth and Twelfth Graders

Eighth, Tenth and Twelfth Graders

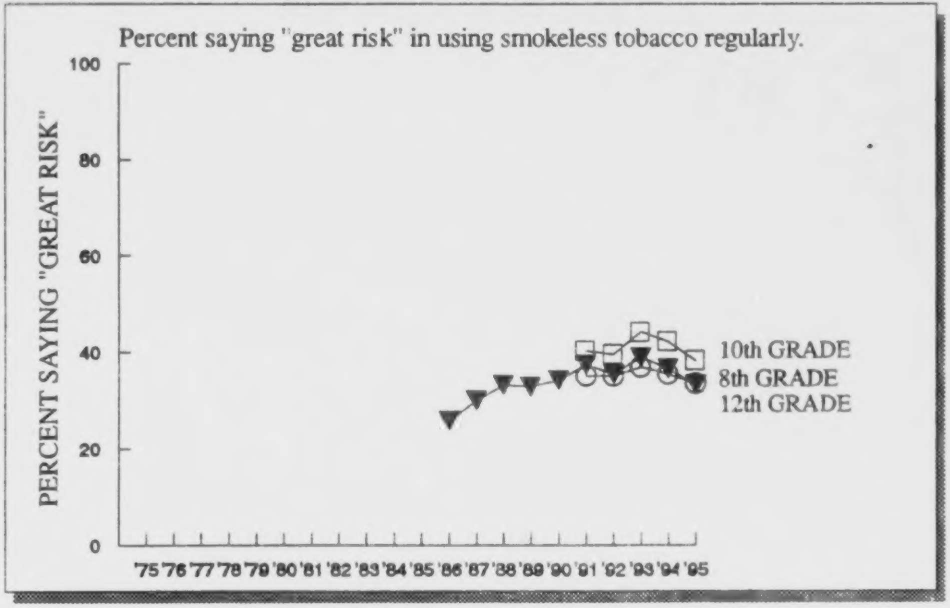
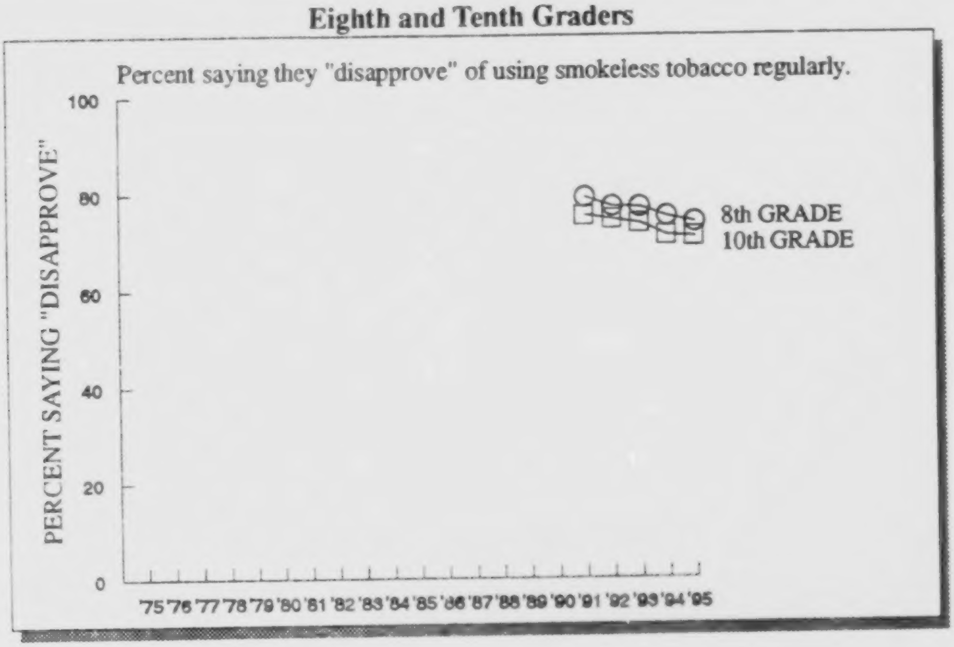


FIGURE 31b

Trends in Disapproval of Using Smokeless Tobacco Regularly for Eighth and Tenth Graders



NOTE: Data not available for Twelfth graders.

phrasing, "Do you disapprove of people (who are 18 or older) doing each of the following" was adopted. The answer alternatives are "don't disapprove," "disapprove," and "strongly disapprove."

Extent of Disapproval Among Twelfth Graders

- The vast majority of seniors do not condone regular use of any of the illicit drugs (see Table 22). Even ***regular marijuana use*** is disapproved (or strongly disapproved) by 82%, and regular use of each of the other illicit drugs receives disapproval from between 93% and 96% of today's high school seniors.

- Fewer respondents indicate disapproval of experimental or occasional use than of regular use, for each of the drugs included in this set of questions. However, the differences are not great for the illicit drugs other than marijuana, because nearly all seniors disapprove even experimenting with them. For example, 81% disapprove experimenting with ***LSD***, 87% with ***barbiturates***, 88% with ***cocaine powder***, 91% with ***crack***, and 93% with ***heroin***.

- For ***marijuana***, the rate of disapproval varies substantially for different usage habits, although not as much as it did in the past. Some 57% disapprove of trying it, versus 82% who disapprove of regular use.

- Smoking a pack (or more) of ***cigarettes*** per day receives the disapproval of 68% of twelfth grade students.

- Taking ***one or two drinks nearly every day*** is disapproved by 73% of the seniors. Curiously, ***weekend binge drinking*** (five or more drinks once or twice each weekend) is acceptable to more seniors than is having one or two drinks daily. Only 67% disapprove of having five or more drinks once or twice a weekend despite the fact that more seniors associate great risk with weekend binge drinking (45%) than with having one or two drinks nearly every day (25%).

  One likely explanation for these anomalous findings may be that a greater proportion of this age group are themselves weekend binge drinkers rather than moderate daily drinkers. Therefore, they may express attitudes accepting of their own behavior, even though such attitudes may be somewhat inconsistent with their beliefs about possible consequences. It also may be that the ubiquitous advertising of alcohol use in "partying" situations has managed to increase social acceptability from what it would be in the absence of such advertising.

TABLE 21

Trends in Disapproval of Drug Use by Eighth, Tenth, and Twelfth Graders, 1991-95

Q. *Do you disapprove of people who . . .*	Percent who "disapprove" or "strongly disapprove"[a]																	
	8th Grade						10th Grade						12th Grade[b]					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Try marijuana once or twice	84.6	82.1	79.2	72.9	70.7	-2.2ss	74.6	74.8	70.3	62.4	59.8	-2.6s	68.7	69.9	63.3	57.6	56.7	-0.9
Smoke marijuana occasionally	89.5	88.1	85.7	80.9	79.7	-1.2	83.7	83.6	79.4	72.3	70.0	-2.3s	79.4	79.7	75.5	68.9	66.7	-2.2
Smoke marijuana regularly	92.1	90.8	88.9	85.3	85.1	-0.2	90.4	90.0	87.4	82.2	81.1	-1.1	89.3	90.1	87.6	82.3	81.9	-0.4
Try inhalants once or twice	84.9	84.0	82.5	81.6	81.8	+0.2	85.2	85.6	84.8	84.9	84.5	-0.4	—	—	—	—	—	—
Take inhalants regularly	90.6	90.0	88.9	88.1	88.8	+0.7	91.0	91.5	90.9	91.0	90.9	-0.1	—	—	—	—	—	—
Try LSD once or twice[c]	—	—	77.1	75.2	71.6	-3.6ss	—	—	82.1	79.3	77.9	-1.4	90.1	88.1	85.9	82.5	81.1	-1.4
Take LSD regularly[c]	—	—	79.8	78.4	75.8	-2.6s	—	—	86.8	85.6	84.8	-0.8	96.4	95.5	95.8	94.3	92.5	-1.8s
Try crack once or twice	91.7	90.7	89.1	86.9	85.9	-1.0	92.5	92.5	91.4	89.9	88.7	-1.2	92.1	93.1	89.9	89.5	91.4	+1.9
Take crack occasionally	93.3	92.5	91.7	89.9	89.8	-0.1	94.3	94.4	93.6	92.5	91.7	-0.8	94.2	95.0	92.8	92.8	94.0	+1.2
Try cocaine powder once or twice	91.2	89.6	88.5	86.1	85.3	-0.8	90.8	91.1	90.0	88.1	86.8	-1.3	88.0	89.4	86.6	87.1	88.3	+1.2
Take cocaine powder occasionally	93.1	92.4	91.6	89.7	89.7	0.0	94.0	94.0	93.2	92.1	91.4	-0.7	93.0	93.4	91.2	91.0	92.7	+1.7
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	51.7	52.2	50.9	47.8	48.0	+0.2	37.6	39.9	38.5	36.5	36.1	-0.4	29.8	33.0	30.1	28.4	27.3	-1.1
Take one or two drinks nearly every day	82.2	81.0	79.6	76.7	75.9	-0.8	81.7	81.7	78.6	75.2	75.4	+0.2	76.5	75.9	77.8	73.1	73.3	+0.2
Have five or more drinks once or twice each weekend	85.2	83.9	83.3	80.7	80.7	0.0	76.7	77.6	74.7	72.3	72.2	-0.1	67.4	70.7	70.1	65.1	66.7	+1.6
Smoke one or more packs of cigarettes per day	82.8	82.3	80.6	78.4	78.6	+0.2	79.4	77.8	76.5	73.9	73.2	-0.7	71.4	73.5	70.6	69.8	68.2	-1.6
Use smokeless tobacco regularly	79.1	77.2	77.1	75.1	74.0	-1.1	75.4	74.6	73.8	71.2	71.0	-0.2	—	—	—	—	—	—
Take steroids[d]	89.8	90.3	89.9	87.9	—	—	90.0	91.0	91.2	90.8	—	—	90.5	92.1	92.1	91.9	91.0	-0.9
Approx. N =	*17390*	*18503*	*18435*	*17429*	*17560*		*14750*	*14774*	*15334*	*15891*	*17016*		*2547*	*2645*	*2723*	*2588*	*2603*	

NOTES: Level of significance of difference between the two most recent classes: s =.05, ss =.01, sss =.001. '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Answer alternatives were: (1) Don't disapprove, (2) Disapprove, (3) Strongly disapprove. For 8th and 10th grades, there was another category—"Can't say, drug unfamiliar"—which was included in the calculation of these percentages.

[b] The twelfth grade questions ask about people who are 18 or older.

[c] 8th and 10th grade: Data based on one of two forms; N is one-half of N indicated.

[d] 8th and 10th grade: Data based on two forms in 1991 and 1992 and on one of two forms in 1993 and 1994; N is one-half of N indicated.

TABLE 22
Long-Term Trends in Disapproval of Drug Use by Twelfth Graders

Q. *Do you disapprove of people (who are 18 or older) doing each of the following?*[b]	Percentage "disapproving"[a]																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Try marijuana once or twice	47.0	38.4	33.4	33.4	34.2	39.0	40.0	45.5	46.3	49.3	51.4	54.6	56.6	60.8	64.6	67.8	68.7	69.9	63.3	57.6	56.7	-0.9
Smoke marijuana occasionally	54.8	47.8	44.3	43.5	45.3	49.7	52.6	59.1	60.7	63.5	65.8	69.0	71.6	74.0	77.2	80.5	79.4	79.7	75.5	68.9	66.7	-2.2
Smoke marijuana regularly	71.9	69.5	65.5	67.5	69.2	74.6	77.4	80.6	82.5	84.7	85.5	86.6	89.2	89.3	89.8	91.0	89.3	90.1	87.6	82.3	81.9	-0.4
Try LSD once or twice	82.8	84.6	83.9	85.4	86.6	87.3	86.4	88.8	89.1	88.9	89.5	89.2	91.6	89.8	89.7	89.8	90.1	88.1	85.9	82.5	81.1	-1.4
Take LSD regularly	94.1	95.3	95.8	96.4	96.9	96.7	96.8	96.7	97.0	96.8	97.0	96.6	97.8	96.4	96.4	96.3	96.4	95.5	95.8	94.3	92.5	-1.8s
Try cocaine once or twice	81.3	82.4	79.1	77.0	74.7	76.3	74.6	76.6	77.0	79.7	79.3	80.2	87.3	89.1	90.5	91.5	93.6	93.0	92.7	91.6	90.3	-1.3
Take cocaine regularly	93.3	93.9	92.1	91.9	90.8	91.1	90.7	91.5	93.2	94.5	93.8	94.3	96.7	96.2	96.4	96.7	97.3	96.9	97.5	96.6	96.1	-0.5
Try crack once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	92.3	92.1	93.1	89.9	89.5	91.4	+1.9
Take crack occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94.3	94.2	95.0	92.8	92.8	94.0	+1.2
Take crack regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94.9	95.0	95.5	93.4	93.1	94.1	+1.0
Try coke powder once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	87.9	88.0	89.4	86.6	87.1	88.3	+1.2
Take coke powder occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	92.1	93.0	93.4	91.2	91.0	92.7	+1.7
Take coke powder regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	93.7	94.4	94.3	93.0	92.5	93.8	+1.3
Try heroin once or twice	91.5	92.6	92.5	92.0	93.4	93.5	93.5	94.6	94.3	94.0	94.0	93.3	96.2	95.0	95.4	95.1	96.0	94.9	94.4	93.2	92.8	-0.4
Take heroin occasionally	94.8	96.0	96.0	96.4	96.8	96.7	97.2	96.9	96.9	97.1	96.8	96.6	97.9	96.9	97.2	96.7	97.3	96.8	97.0	96.2	95.7	-0.5
Take heroin regularly	96.7	97.5	97.2	97.8	97.9	97.6	97.8	97.5	97.7	98.0	97.6	97.6	98.1	97.2	97.4	97.5	97.8	97.2	97.5	97.1	96.4	-0.7
Try amphetamines once or twice	74.8	75.1	74.2	74.8	75.1	75.4	71.1	72.6	72.3	72.8	74.9	76.5	80.7	82.5	83.3	85.3	86.5	86.9	84.2	81.3	82.2	+0.9
Take amphetamines regularly	92.1	92.8	92.5	93.5	94.4	93.0	91.7	92.0	92.6	93.6	93.3	93.5	95.4	94.2	94.2	95.5	96.0	95.6	96.0	94.1	94.3	+0.2
Try barbiturates once or twice	77.7	81.3	81.1	82.4	84.0	83.9	82.4	84.4	83.1	84.1	84.9	86.8	89.6	89.4	89.3	90.5	90.6	90.3	89.7	87.5	87.3	-0.2
Take barbiturates regularly	93.3	93.6	93.0	94.3	95.2	95.4	94.2	94.4	95.1	95.1	95.5	94.9	96.4	95.3	95.3	96.4	97.1	96.5	97.0	96.1	95.2	-0.9
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	21.6	18.2	15.6	15.6	15.8	16.0	17.2	18.2	18.4	17.4	20.3	20.9	21.4	22.6	27.3	29.4	29.8	33.0	30.1	28.4	27.3	-1.1
Take one or two drinks nearly every day	67.6	68.9	66.8	67.7	68.3	69.0	69.1	69.9	68.9	72.9	70.9	72.8	74.2	75.0	76.5	77.9	76.5	75.9	77.8	73.1	73.3	+0.2
Take four or five drinks nearly every day	88.7	90.7	88.4	90.2	91.7	90.8	91.8	90.9	90.0	91.0	92.0	91.4	92.2	92.8	91.6	91.9	90.6	90.8	90.6	89.8	88.8	-1.0
Have five or more drinks once or twice each weekend	60.3	58.6	57.4	56.2	56.7	55.6	55.5	58.8	56.6	59.6	60.4	62.4	62.0	65.3	66.5	68.9	67.4	70.7	70.1	65.1	66.7	+1.6
Smoke one or more packs of cigarettes per day	67.5	65.9	66.4	67.0	70.3	70.8	69.9	69.4	70.8	73.0	72.3	75.4	74.3	73.1	72.4	72.8	71.4	73.5	70.6	69.8	68.2	-1.6
Take steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.8	90.5	92.1	92.1	91.9	91.0	-0.9
Approx. N =	*2677*	*2957*	*3085*	*3686*	*3221*	*3261*	*3610*	*3651*	*3341*	*3254*	*3265*	*3113*	*3302*	*3311*	*2799*	*2566*	*2547*	*2645*	*2723*	*2588*	*2603*	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.
[b] The 1975 question asked about people who are "20 or older."

Extent of Disapproval Among Eighth and Tenth Graders

- The eighth graders are now least likely to disapprove of ***crack cocaine*** and ***cocaine powder*** use, reflecting their more rapid decline in disapproval since 1991 (see Table 21).

- Attitudes about ***inhalant*** use have been asked only of the eighth and tenth grade students, and 82% and 85%, respectively, say they disapprove of trying them.

- ***Marijuana*** shows the greatest age-related difference in disapproval rates. The lower the grade level, the higher the rate of disapproval. To illustrate, in 1995, 57% of twelfth graders disapprove of trying marijuana compared to 60% of tenth graders and 71% of eighth graders (Table 21). There now is considerable evidence that these attitudes do shift with age. It is also possible that these lasting differences reflect some important differences between class cohorts. (The eighth graders of 1991 for the most part comprise the tenth graders of 1993 and the twelfth graders of 1995, and their disapproval of trying marijuana fell from 85% in eighth grade to 70% by tenth grade to 57% by twelfth grade. This drop far exceeds the secular trend at any given grade level.)

- Disapproval of ***alcohol*** use also increases as one moves down in grade level. For example, only 67% of the seniors disapprove of weekend binge drinking vs. 72% of the tenth graders and 81% of the eighth graders. Because of the shifts in the minimum drinking ages in a number of states, we think it quite possible that a cohort shift in attitudes about drinking had been taking place, since for the younger cohorts teenage drinking has been illegal for a greater proportion of their lives.

- Similarly, for ***cigarette*** use, 68% of seniors, 73% of tenth graders, and 79% of eighth graders disapprove of smoking one or more packs per day. Oddly enough, the eighth graders, who are least likely to see regular smoking as dangerous, are the most likely to disapprove of it.

TRENDS IN DISAPPROVAL OF DRUG USE

Trends in Disapproval Among Twelfth Graders

- Between 1975 and 1977 a substantial decrease occurred in disapproval of ***marijuana*** use at any level of frequency (see Table 22, and Figure 21b). About 14% fewer seniors in the class of 1977 (compared with the class of 1975) disapproved of experimenting, 11% fewer disapproved of occasional use, and 6% fewer disapproved of regular use. These undoubtedly were continuations of longer-term trends which began in the late 1960s, as the norms of American young people against illicit drug use seriously eroded. Between 1977 and 1990, however, there was a very substantial reversal of that trend when disapproval of experimental marijuana use rose by 34 percentage points, disapproval of occasional use by 36 percentage points, and disapproval of regular use by 26 percentage points. There were no further significant changes in 1991 or 1992, although disapproval of experimental use continued to rise. Beginning in 1993, a sharp drop in disapproval of marijuana use emerged. Between 1992 and 1994 disapproval dropped 12 percentage points for experimental use, 11 percentage points for occasional use, and 8 percentage points for regular use. These changes, which accelerated in 1994, and slowed in 1995, accompanied a significant increase in actual use in 1994 and 1995.

- Until 1980 the proportion of seniors who disapproved of trying ***amphetamines*** had remained extremely stable (at 75%). This proportion dropped some in 1981 (to 71%) and then increased gradually until it reached 87% in 1991, where it remained in 1992. In 1993 a reversal began; disapproval dropped by nearly 3% that year and by another 3% in 1994, as actual use increased. In 1995 there was little further change (Figure 26b).

- During the late 1970s, personal disapproval of experimenting with ***barbiturates*** increased (from 78% in 1975 to 84% in 1979) and remained relatively stable through 1984, when it began to increase again. By 1990 disapproval had reached 91% and then changed little until it dipped (significantly) to 88% in 1994, where it remains in 1995 (Figure 26b).

- Concurrent with the years of increase in actual ***cocaine*** use, disapproval of experimental use of cocaine declined somewhat, from a high of 82% in 1976 down to 75% in 1979 (Figure 22b). It then leveled for four years, edged upward for a couple of years to about 80% in 1986, and since then rose significantly so that 94% of seniors in 1991disapproved of trying cocaine. Disapproval of trying both ***cocaine powder*** and ***crack cocaine*** (Figure 23b) peaked in 1992, after which there was a modest fall-off until 1995.

- We believe that the parallel trends between perceived risk and disapproval—particularly for marijuana and cocaine—are no accident. We hypothesize that perceived risk is an important influence on an individual's level of disapproval of a drug-using behavior, though there surely are other influences, as well. As levels of personal disapproval change, these individually held attitudes are communicated among friends and acquaintances, and thus perceived norms change as well (as will be illustrated in the next chapter). It is noteworthy that as perceived risk for most of the illicit drugs began to reverse in 1991 or 1992, personal disapproval for virtually all of them appeared to level. In 1993, personal disapproval among seniors began to drop for nearly all of the illicit drugs (see Table 22) and many continued to fall in 1995. This time lag suggests that perceived risk influences disapproval, which in turn, changes peer norms.

- Despite the large changes which seem to have taken place in adult use of cigarettes, young people's disapproval of ***regular cigarette smoking*** (a pack or more per day) has changed surprisingly little throughout this study. Disapproval increased from 68% to 71% between 1975 and 1980. Disapproval rates fluctuated slightly throughout the 1980s and early 1990s, never exceeding 75%. In 1995 the disapproval rate is 68%. This lack of change is surprising because so many anti-smoking laws and policies have been enacted. Very likely, the promotion and advertising efforts of the tobacco industry help to account for this lack of change in disapproval. It is worth noting that the disapproval rates among eighth and tenth graders actually have drifted downward over the last four years. Among seniors, the decline goes back three years, and the rate among seniors in 1995 is the lowest since 1982 (Table 22 and Figure 30b).

- Disapproval of weekend ***binge drinking*** rose gradually but substantially, from a low of 56% in 1981 to a high of 71% by 1992. Over that same 11-year interval, the self-reported rate of binge drinking declined from a high of 41% in 1981 to a low of 28% in 1992. The proportion of seniors who disapproved of even ***trying alcohol*** doubled, from a low point of 16% in 1980 to 33% in 1992, before falling back to 27% in 1995 (Figure 29b). It seems likely that the increased minimum drinking age in many states, which occurred primarily between 1981 and 1987, contributed to these changes in attitude about abstention, since more recent senior classes grew up under the higher minimum drinking age. If so, this illustrates the considerable capacity of laws to influence informal norms.

  After 1992, disapproval of binge drinking fell back from 71% to 65% by 1994 and disapproval of trying alcohol fell back from 33% to 27% by 1995. The decline in disapproval of binge drinking did not continue into 1995, however.

Trends in Disapproval Among Eighth and Tenth Graders

Table 21 provides four-year trends (1991-1995) in disapproval for the eighth and tenth grade levels, as well as for twelfth grade.

- In 1992 tenth and twelfth grade students showed little change in disapproval of the illicit drugs, but eighth graders showed some erosion in these attitudes with respect to ***marijuana, cocaine powder,*** and ***crack***. In 1993, rates of disapproval for these drugs continued to decline among eighth graders and began to decline among tenth and twelfth graders as well (Table 21 and Figure 21b, 23b). Between 1993 and 1995 disapproval of both ***marijuana*** use and ***LSD*** use declined in all three grade levels, and among eighth and tenth graders disapproval of the use of ***crack*** and ***cocaine powder*** fell significantly.

- The declines in personal disapproval have been particularly sharp for ***marijuana*** at all three grade levels. For example, between 1991 and 1995 the proportion of eighth graders who disapproved of trying marijuana fell from 85% to 71%.

- Since 1993, when these questions were first asked of eighth and tenth graders with regard to ***LSD***, disapproval of its use has been declining along with perceived risk. Actual use has been increasing.

- The softening in attitudes about ***cocaine powder*** and ***crack*** eventually translated into a change in usage levels. In 1994 and again in 1995 use of these drugs was up in all grades, some significantly. (See Table 1.)

- Regarding ***inhalants***, there has been a little slippage in the disapproval rates among eighth graders since 1991, but none among tenth graders. The rates of use, however, have been climbing gradually over this period.

- Disapproval of weekend ***binge drinking*** declined among eighth and tenth graders between 1991 and 1995, and among twelfth graders between 1993 and 1994. However, in 1995 we saw no change in eighth and tenth graders' disapproval of binge drinking (Figure 29b).

- Disapproval of ***cigarette smoking*** has also declined significantly since 1991 among eighth and tenth graders, and since 1992 among twelfth graders (Figure 30b), corresponding to periods of increases in the use of cigarettes.

ATTITUDES REGARDING THE LEGALITY OF DRUG USE

At the beginning of the study, legal restraints on drug use appeared likely to be in a state of flux for some time; therefore, we decided to measure attitudes about legal sanctions. As it turns out, some dramatic changes in these attitudes have occurred during the life of the study. Table 23 presents a set of questions on this subject along with the answers provided by each senior class. The set lists a sampling of illicit and licit drugs and asks respondents whether their use should be prohibited by law. A distinction is consistently made between use in public and use in private—a distinction which proved quite important in the results. (These questions have not been asked of the eighth and tenth grade respondents.)

Attitudes of Twelfth Graders

- The great majority of seniors believe that the use in public of ***illicit drugs other than marijuana*** should be prohibited by law. For instance, in the case of ***amphetamines*** or ***barbiturates***, 78% of the seniors believed that use in public should be prohibited, and 85%

TABLE 23

Trends in Twelfth Graders' Attitudes Regarding Legality of Drug Use

Q. Do you think that people (who are 18 or older) should be prohibited by law from doing each of the following?[b]	Percent saying "yes"[a]																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Smoke marijuana in private	32.8	27.5	26.8	25.4	28.0	28.9	36.4	36.6	37.8	41.6	44.7	43.8	47.6	51.8	51.5	56.0	51.6	52.4	48.0	42.9	44.0	+1.1
Smoke marijuana in public places	63.1	59.1	58.7	59.5	61.8	66.1	67.4	72.8	73.6	75.2	78.2	78.9	79.7	81.3	80.0	81.9	79.8	78.3	77.3	72.5	72.9	+0.4
Take LSD in private	67.2	65.1	63.3	62.7	62.4	65.8	62.6	67.1	66.7	67.9	70.6	69.0	70.8	71.5	71.6	72.9	68.1	67.2	63.5	63.2	64.3	+1.1
Take LSD in public places	85.8	81.9	79.3	80.7	81.5	82.8	80.7	82.1	82.8	82.4	84.8	84.9	85.2	86.0	84.4	84.9	83.9	82.2	82.1	80.5	81.5	+1.0
Take heroin in private	76.3	72.4	69.2	68.8	68.5	70.3	68.8	69.3	69.7	69.8	73.3	71.7	75.0	74.2	74.4	76.4	72.8	71.4	70.7	70.1	72.2	+2.1
Take heroin in public places	90.1	84.8	81.0	82.5	84.0	83.8	82.4	82.5	83.7	83.4	85.8	85.0	86.2	86.6	85.2	86.7	85.4	83.3	84.5	82.9	84.8	+1.9
Take amphetamines or barbiturates in private	57.2	53.5	52.8	52.2	53.4	54.1	52.0	53.5	52.8	54.4	56.3	56.8	59.1	60.2	61.1	64.5	59.7	60.5	57.4	55.7	57.5	+1.8
Take amphetamines or barbiturates in public places	79.6	76.1	73.7	75.8	77.3	76.1	74.2	75.5	76.7	76.8	78.3	79.1	79.8	80.2	79.2	81.6	79.7	78.5	78.0	76.4	77.6	+1.2
Get drunk in private	14.1	15.6	18.6	17.4	16.8	16.7	19.6	19.4	19.9	19.7	19.8	18.5	18.6	19.2	20.2	23.0	22.0	24.4	22.1	21.0	21.6	+0.6
Get drunk in public places	55.7	50.7	49.0	50.3	50.4	48.3	49.1	50.7	52.2	51.1	53.1	52.2	53.2	53.8	52.6	54.6	54.3	54.1	53.6	54.3	54.5	+0.2
Smoke cigarettes in certain specified public places	—	—	42.0	42.2	43.1	42.8	43.0	42.0	40.5	39.2	42.8	45.1	44.4	48.4	44.5	47.3	44.9	47.6	45.9	47.3	45.1	-2.2
Approx. N =	*2620*	*2959*	*3113*	*3783*	*3288*	*3224*	*3611*	*3627*	*3315*	*3236*	*3254*	*3074*	*3332*	*3288*	*2813*	*2571*	*2512*	*2671*	*2759*	*2603*	*2578*	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Answer alternatives were: (1) No, (2) Not sure, and (3) Yes.
[b] The 1975 question asked about people who are "20 or older."

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believe ***heroin*** should be prohibited. Even use in private is opposed by the majority, though by smaller proportions: for example, 58% believe that the use in private of barbiturates or amphetamines should be illegal, 64% for ***LSD***, and 72% for heroin.

- The great majority of seniors (73%) also favor legally prohibiting ***marijuana*** use in public places, despite the fact that more than one-third have used marijuana themselves, and despite the fact that many do not judge it to be as dangerous as other drugs. Considerably fewer (44%) feel that marijuana use in private should be prohibited.

- Some 45% of twelfth graders believe that ***cigarette*** smoking in "certain specified public places" should be prohibited by law. Slightly more think ***getting drunk*** in public should be prohibited (55%).

- For ***all drugs*** included in the question, fewer seniors believe that use in private settings should be illegal. This is particularly true for alcohol and marijuana.

Trends in These Attitudes Among Twelfth Graders

- From 1975 through 1978 there were modest declines (shifts of 5 to 7 percentage points, depending on the substance) in the proportions of seniors who favored legal prohibition of private use of any of the five illicit drugs. (See Table 23.) By 1990, all of these proportions had increased substantially, with shifts of 8 to 31 percentage points. The proportion who thought ***marijuana*** use in private should be prohibited by law more than doubled, from 25% in 1978 to 56% in 1990—quite a dramatic shift.

  Between 1990 and 1994, positions on prohibition of all the illicit drugs softened again, particularly in the case of marijuana, but the declines did not continue into 1995.

- There has been rather little change in the proportion of seniors who say ***smoking cigarettes*** "in certain specified public places" should be prohibited by law. In 1977 some 42% held this view vs. 43% in 1985, and 45% in 1995. Were the question more specific as to the places in which smoking might be prohibited (e.g., hospitals, restaurants, etc.) different results might emerge.

- Preferences about the illegality of ***drunkenness*** in public or private places has changed little, but that small change has been toward less tolerance of these behaviors. The stability of attitudes about the preferred legality for this culturally ingrained drug-using behavior contrasts sharply with the lability of preferences regarding the legality of the illicit drugs.

THE LEGAL STATUS OF MARIJUANA

Another set of questions asks in more detail about what legal sanctions, if any, seniors think should be attached to the use and sale of marijuana. Respondents also are asked to guess how they would be likely to react to legalized use and sale of the drug. The answers to such a hypothetical question must be interpreted cautiously, of course.

Attitudes and Predicted Responses to Legalization

- As shown in Table 24, in 1995 just over one-third (37%) of all seniors believed that marijuana use should be treated as a crime. Nearly one-third thought it should be entirely legal (30%), about another one-fifth (18%) felt it should be treated as a minor violation—like a parking ticket—but not as a crime. Another 14% indicated no opinion.

- Asked whether they thought it should be legal to sell marijuana if it were legal to use it, just over half (55%) said "yes." However, four out of five of these respondents (43% of all respondents) would permit sale *only* to adults. A small minority (12%) favored sale to anyone, regardless of age.

- High school seniors felt that they would be little affected personally by the legalization of either the sale or the use of marijuana. Almost two-thirds (60%) of the respondents said that they would not use the drug even if it were legal to buy and use, and another 19% indicates they would use it about as often as they do now, or less. Only 5% said they would use it more often than at present and only another 9% thought they would try it. Some 7% say they do not know how their behaviors would be affected if marijuana were legalized.

  A special study of the effects of decriminalization at the state level during the late 1970s[37] (which falls well short of the fully-legalized situation posited in this question) revealed no evidence of any impact of decriminalization on the use of marijuana, nor even on attitudes and beliefs concerning its use. However, the situation today is very different, with much more peer disapproval and more rigorous enforcement. The symbolic message, and the impact, of legalizing or decriminalizing marijuana under these circumstances would likely be different. Therefore, we do not believe that those findings from the late 1970s can be validly generalized to the legalization of marijuana today.

Trends in Attitudes and Predicted Responses

- Between 1978 and 1990 American young people became much more supportive of legal prohibitions on the use of illegal drugs, whether used in private or in public (Table 23).

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[37] See Johnston, L.D., O'Malley, P.M., & Bachman, J.G. (1981). *Marijuana decriminalization: The impact on youth, 1975-1980* (Monitoring the Future Occasional Paper No. 13). Ann Arbor: Institute for Social Research.

TABLE 24

Trends in Twelfth Graders' Attitudes Regarding Marijuana Laws

(Entries are percentages)

Q. There has been a great deal of public debate about whether marijuana use should be legal. Which of the following policies would you favor?	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1893	Class of 1994	Class of 1995
Using marijuana should be entirely legal	27.3	32.6	33.6	32.9	32.1	26.3	23.1	20.0	18.9	18.6	16.6	14.9	15.4	15.1	16.6	15.9	18.0	18.7	22.8	26.8	30.4
It should be a minor violation like a parking ticket but not a crime	25.3	29.0	31.4	30.2	30.1	30.9	29.3	28.2	26.3	23.6	25.7	25.9	24.6	21.9	18.9	17.4	19.2	18.0	18.7	19.0	18.0
It should be a crime	30.5	25.4	21.7	22.2	24.0	26.4	32.1	34.7	36.7	40.6	40.8	42.5	45.3	49.2	50.0	53.2	48.6	47.6	43.4	39.4	37.3
Don't know	16.8	13.0	13.4	14.6	13.8	16.4	15.4	17.1	18.1	17.2	16.9	16.7	14.8	13.9	14.6	13.6	14.3	15.7	15.1	14.8	14.4
Q. If it were legal for people to USE marijuana, should it also be legal to SELL marijuana?																					
No	27.8	23.0	22.5	21.8	22.9	25.0	27.7	29.3	27.4	30.9	32.6	33.0	36.0	36.8	38.8	40.1	36.8	37.8	36.7	33.1	32.3
Yes, but only to adults	37.1	49.8	52.1	53.6	53.2	51.8	48.6	46.2	47.6	45.8	43.2	42.2	41.2	39.9	37.9	38.8	41.4	39.5	40.7	41.7	43.4
Yes, to anyone	16.2	13.3	12.7	12.0	11.3	9.6	10.5	10.7	10.5	10.6	11.2	10.4	9.2	10.5	9.2	9.6	9.4	9.6	10.1	11.6	11.7
Don't know	18.9	13.9	12.7	12.6	12.6	13.6	13.2	13.8	14.6	12.8	13.1	14.4	13.6	12.8	14.1	11.6	12.5	13.1	12.5	13.7	12.6
Q. If marijuana were legal to use and legally available, which of the following would you be most likely to do?																					
Not use it, even if it were legal and available	53.2	50.4	50.6	46.4	50.2	53.3	55.2	60.0	60.1	62.0	63.0	62.4	64.9	69.0	70.1	72.9	70.7	72.5	69.0	64.6	60.2
Try it	8.2	8.1	7.0	7.1	6.1	6.8	6.0	6.3	7.2	6.6	7.5	7.6	7.3	7.1	6.7	7.0	6.3	7.4	7.3	7.6	8.8
Use it about as often as I do now	22.7	24.7	26.8	30.9	29.1	27.3	24.8	21.7	19.8	19.1	17.7	16.8	16.2	13.1	13.0	10.1	11.7	10.2	11.9	14.3	17.1
Use it more often than I do now	6.0	7.1	7.4	6.3	6.0	4.2	4.7	3.8	4.9	4.7	3.7	5.0	4.1	4.3	2.4	2.7	3.3	3.2	3.5	4.7	4.9
Use it less often than I do now	1.3	1.5	1.5	2.7	2.5	2.6	2.5	2.2	1.5	1.6	1.6	2.0	1.3	1.5	2.1	1.1	1.6	1.0	1.4	1.5	1.6
Don't know	8.5	8.1	6.6	6.7	6.1	5.9	6.9	6.0	6.4	6.0	6.5	6.1	6.3	5.0	5.7	6.1	6.4	5.7	7.0	7.3	7.4
Approx. N =	*2600*	*2970*	*3110*	*3710*	*3280*	*3210*	*3600*	*3620*	*3300*	*3220*	*3230*	*3080*	*3330*	*3277*	*2812*	*2570*	*2515*	*2672*	*2768*	*2597*	*2574*

SOURCE: The Monitoring the Future Study, the University of Michigan.

- Between 1976 and 1979, seniors' preferences for decriminalization or legalization remained fairly constant; but between 1979 and 1990 the proportion favoring outright legalization dropped by almost half (from 32% in 1979 to 16% in 1990), while there was a corresponding doubling in the proportion saying marijuana use should be a crime (from 24% to 53%). Also reflecting this increased conservatism about marijuana, somewhat fewer said they would support legalized *sale*, even if *use* were made legal (down from 65% in 1979 to 48% in 1990).

  Since 1990 these policy attitudes have begun to soften again. Fewer favor criminal penalties and more favor legal sale (see Table 24). For example, in 1995 the proportion saying that using marijuana should be entirely legal is 30%, up from 16% in 1990.

- The predictions about personal marijuana use, if sale and use were legalized, have been quite similar for all high school classes. The slight shifts being observed are mostly attributable to the changing proportions of seniors who actually use marijuana.

- As with all of the other attitudes and beliefs examined in this chapter, the long term anti-drug changes appear to have leveled or reversed since 1990.

Chapter 9

THE SOCIAL MILIEU

In the preceding chapter we dealt with students' own attitudes about various forms of drug use. Such attitudes about drugs, as well as drug-related behaviors, obviously do not emerge in a social vacuum. Drugs are discussed in the media; they are a topic of considerable interest and conversation among young people; they are also a matter of much concern to parents, concern that often is strongly communicated to their children. We know young people are affected by the actual drug-taking behaviors of their friends and acquaintances, as well as by the availability of the various drugs. This section presents data on several of these relevant aspects of the social milieu.

We begin with two sets of questions about parental and peer attitudes, questions which closely parallel the questions about respondents' own attitudes about drug use. Since measures of parental attitudes have not been carried in the study in recent years, those mentioned here are based on the much earlier 1979 results.

PERCEIVED ATTITUDES OF PARENTS AND FRIENDS: TWELFTH GRADERS

Perceptions of Parental Attitudes

- Even at the height of the drug epidemic in 1979, a large majority of seniors felt that their parents would disapprove or strongly disapprove of their exhibiting ***any of the drug use behaviors*** which are listed in Table 25. (The data for the perceived parental attitudes are not given in tabular form, but are displayed in Figures 32a and 32b.)

- Because of the consistency in high school seniors' answers to questions regarding how they thought their parents would feel about using particular drugs, these questions were dropped in 1979. With the changing climate in the years since, as exemplified by the dramatic overall shifts in students' attitudes, it seems likely that parental attitudes would be even more restrictive today.

- Drug use appears to constitute one area in which the position of parents approaches complete unanimity. In 1979, over 97% of seniors said that their parents would disapprove or strongly disapprove of their smoking ***marijuana*** regularly, even trying ***LSD*** or ***amphetamines***, or having four or five ***drinks*** every day. (Although the questions did not include more frequent use of LSD or amphetamines, or any use of heroin, it is obvious that if such behaviors had been included in the list virtually all seniors would have indicated parental disapproval.)

- Even experimental use of ***marijuana*** was seen as a parentally disapproved activity by the great majority of the 1979 seniors (85%). Assuming that the students were generally correct about their parents'

TABLE 25

Trends in Proportion of Friends Disapproving of Drug Use
Twelfth Graders

Q. *How do you think your close friends feel (or would feel) about you . . .*	Percent saying friends disapprove[a]																					
	Class of 1975[b]	Class of 1976	Class of 1977[b]	Class of 1978	Class of 1979[b]	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Trying marijuana once or twice	44.3	—	41.8	—	40.9	42.6	46.4	50.3	52.0	54.1	54.7	56.7	58.0	62.9	63.7	70.3	69.7	73.1	66.6	62.7	58.1	-4.6s
Smoking marijuana occasionally	54.8	—	49.0	—	48.2	50.6	55.9	57.4	59.9	62.9	64.2	64.4	67.0	72.1	71.1	76.4	75.8	79.2	73.8	69.1	65.4	-3.7s
Smoking marijuana regularly	76.0	—	69.1	—	70.2	72.0	75.0	74.7	77.6	79.2	81.0	82.3	82.9	85.5	84.9	86.7	85.9	88.0	83.5	80.6	78.9	-1.7
Trying LSD once or twice	85.6	—	86.6	—	87.6	87.4	86.5	87.8	87.8	87.6	88.6	89.0	87.9	89.5	88.4	87.9	87.9	87.3	83.5	83.4	82.6	-0.8
Trying cocaine once or twice	—	—	—	—	—	—	—	—	—	—	—	79.6	83.9	88.1	88.9	90.5	91.8	92.2	91.1	91.4	91.1	-0.3
Taking cocaine occasionally	—	—	—	—	—	—	—	—	—	—	—	87.3	89.7	92.1	92.1	94.2	94.7	94.4	93.7	93.9	93.8	-0.1
Trying crack once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94.2	95.0	94.4	94.6	95.1	93.9	93.8	-0.1
Taking crack occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	95.7	96.5	95.7	95.9	96.4	95.3	96.1	+0.8
Trying coke powder once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	91.7	93.4	93.3	94.0	94.2	93.2	93.5	+0.3
Taking coke powder occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94.0	95.0	94.8	94.8	95.2	94.7	95.3	+0.6
Trying an amphetamine once or twice	78.8	—	80.3	—	81.0	78.9	74.4	75.7	76.8	77.0	77.0	79.4	80.0	82.3	84.1	84.2	85.3	85.7	83.2	84.5	81.9	-2.6
Taking one or two drinks nearly every day	67.2	—	71.0	—	71.0	70.5	69.5	71.9	71.7	73.6	75.4	75.9	71.8	74.9	76.4	79.0	76.6	77.9	76.8	75.8	72.6	-3.2
Taking four or five drinks every day	89.2	—	88.1	—	88.5	87.9	86.4	86.6	86.0	86.1	88.2	87.4	85.6	87.1	87.2	88.2	86.4	87.4	87.2	85.2	84.1	-1.1
Having five or more drinks once or twice every weekend	55.0	—	53.4	—	51.3	50.6	50.3	51.2	50.6	51.3	55.9	54.9	52.4	54.0	56.4	59.0	58.1	60.8	58.5	59.1	58.0	-1.1
Smoking one or more packs of cigarettes per day	63.6	—	68.3	—	73.4	74.4	73.8	70.3	72.2	73.9	73.7	76.2	74.2	76.4	74.4	75.3	74.0	76.2	71.8	72.4	69.2	-3.2
Approx. N =	*2488*	—	*2615*	—	*2716*	*2766*	*3120*	*3024*	*2722*	*2721*	*2688*	*2639*	*2815*	*2778*	*2400*	*2184*	*2160*	*2229*	*2220*	*2149*	*2177*	

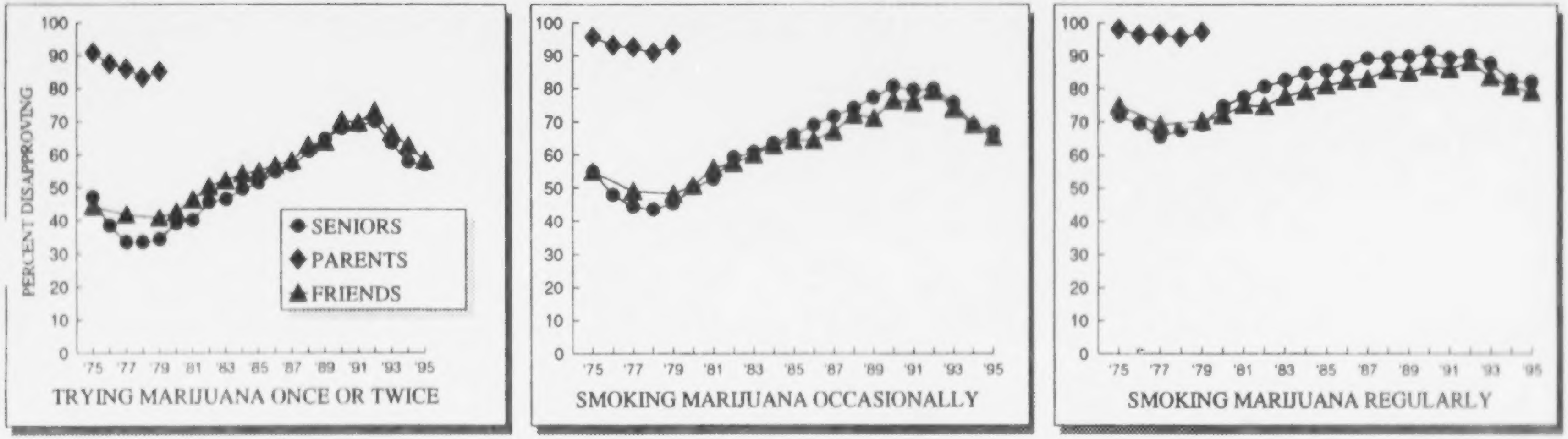
NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.
[b] These numbers have been adjusted to correct for a lack of comparability of question-context among administrations. (See text for discussion.)

FIGURE 32a

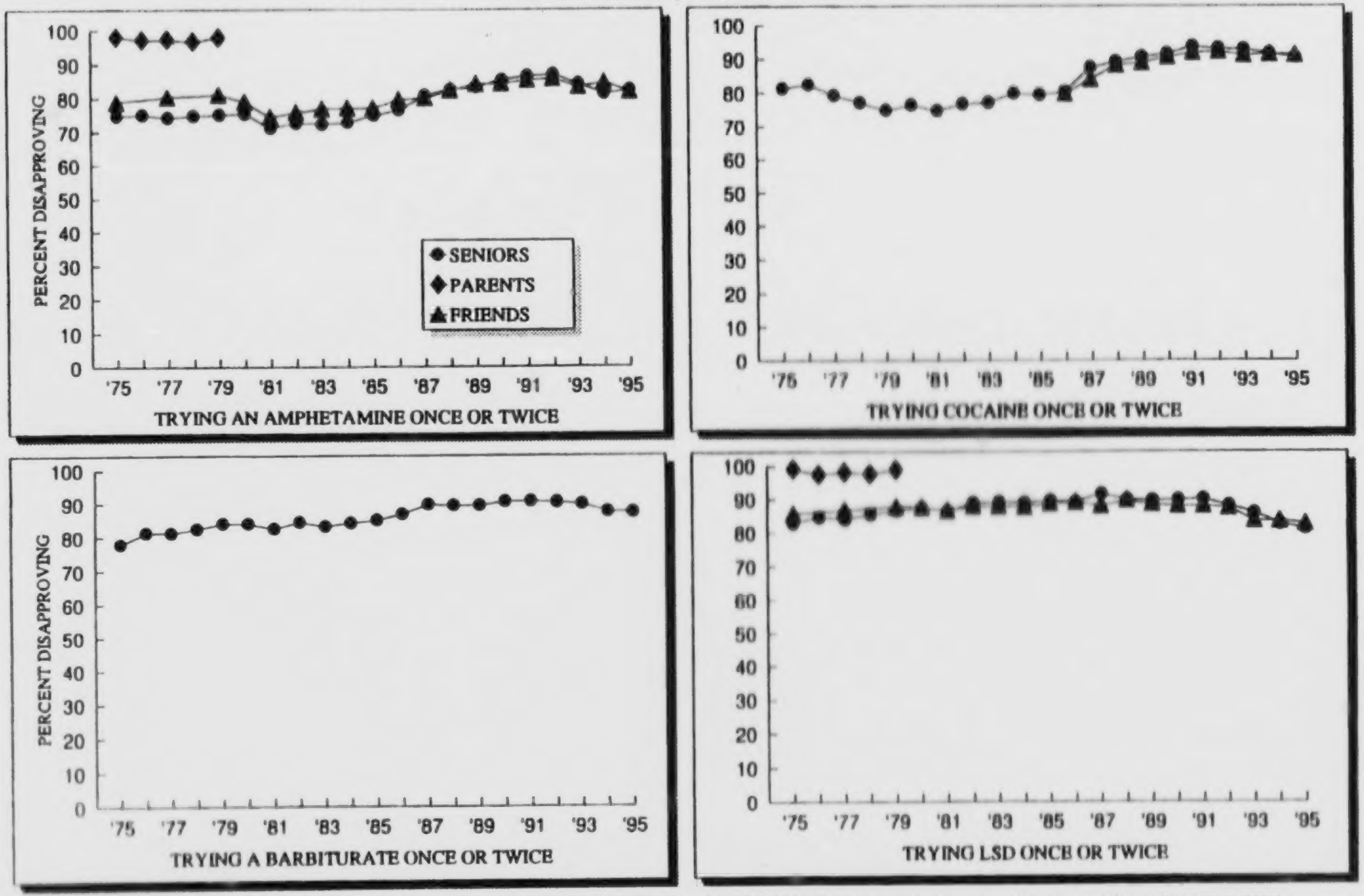
Trends in Disapproval of Illicit Drug Use

Twelfth Graders, Parents, and Peers



NOTE: The 1975, 1977, and 1979 points indicating the percentage of seniors who said their friends would disapprove have been adjusted to compensate for lack of comparability of question-context between administration years. (See text for discussion.)

FIGURE 32b
Trends in Disapproval of Illicit Drug Use
Twelfth Graders, Parents, and Peers



NOTE: The 1975, 1977, and 1979 points indicating the percentage of seniors who said their friends would disapprove have been adjusted to compensate for lack of comparability of question-context between administration years. (See text for discussion.)

attitudes, these results clearly showed a substantial generational difference of opinion about this drug at that time.

- Also likely to be perceived as rating high parental disapproval (91-93% disapproval) were ***occasional marijuana*** use, taking ***one or two drinks*** nearly every day, and ***pack-a-day cigarette smoking***.

- Slightly lower proportions of seniors (85%) felt their parents would disapprove of their having ***five or more drinks once or twice every weekend***. This was the same percentage that said their parents would disapprove of simply experimenting with marijuana, showing a considerably more tolerant parental attitude toward alcohol than marijuana.

Perceptions of Friends' Attitudes

- Since the beginning of the study, a parallel set of questions has asked respondents to estimate their friends' attitudes about drug use (Table 25). These questions ask, "How do you think your close friends feel (or would feel) about you [taking the specified drug at the specified level]...?" Peer disapproval in 1995 for experimenting with a drug is highest for trying ***crack*** and ***cocaine powder*** (94%), ***LSD*** (83%), and ***amphetamines*** (82%). Presumably, if ***heroin*** or ***PCP*** were on the list, they too would receive very high peer disapproval.

- Even experimenting with ***marijuana*** now is viewed with disapproval by most seniors' friends (58%); and a large majority think their friends would disapprove if they smoked marijuana regularly (79%).

- Slightly more than two-thirds of all seniors think they would face peer disapproval if they smoked a ***pack or more of cigarettes daily*** (69%).

- While ***heavy drinking on weekends*** is judged by more than half (58%) to be disapproved of by their friends (many of whom exhibit that behavior themselves), substantially more (73%) think consumption of ***one or two drinks daily*** would be disapproved, and the great majority (84%) would face the disapproval of their friends if they engaged in ***heavy daily drinking***.

- In sum, peer norms among twelfth grade students differ considerably for the various drugs and for varying degrees of involvement with those drugs, but overall they tend to be quite conservative. The great majority of seniors have friendship circles which do not condone use of the illicit drugs other than marijuana, and more than half (58%) of them believe their friends would disapprove of their even trying marijuana.

- While we did not have the space to include these questions in the eighth and tenth grade questionnaires (for which there are only two questionnaire forms instead of six) there seems little doubt that they would report at least as restrictive peer norms as the twelfth graders, and perhaps more restrictive ones, based on the cross-grade comparisons of personal disapproval given in Chapter 8.

A Comparison of the Attitudes of Parents, Peers, and Twelfth Graders

A comparison of seniors' perceptions of friends' disapproval with their perceptions of parents' disapproval, in the years for which comparison is possible, showed several interesting findings.

- First there was rather little variability from year to year in students' perceptions of their parents' attitudes. On any of the drug behaviors listed nearly *all* high school seniors said their parents would disapprove. Nor was there much variability among the different drugs in perceived parental attitudes. However, *peer* norms varied much more from drug to drug. From these facts we may conclude that peer norms have a much greater chance of explaining variability in the respondent's own individual attitudes or use than parental norms, simply because the peer norms vary more. We wish to emphasize that this is quite different than saying that parental attitudes do not matter, or even that they matter less than peer attitudes.

- Despite less variability in parental attitudes, the *ordering* for disapproval of drug use behaviors was much the same as for peers. That is, among the illicit drugs asked about, the highest frequencies of perceived disapproval were for trying cocaine, while the lowest frequencies were for trying marijuana.

- A comparison with the seniors' own attitudes regarding drug use reveals that on the average they are much more in accord with their peers than with their parents (see Figures 32a, 32b, and 33). The differences between seniors' own disapproval ratings in 1979 and those attributed to their parents tended to be large, with parents seen as more conservative overall in relation to ***every drug***, licit or illicit. The largest difference occurred in the case of ***marijuana*** experimentation, where only 34% of seniors in 1979 said they disapproved vs. 85% who said their parents would disapprove. Although by 1992 seniors' own disapproval rates had doubled and is now at 57% in 1995, it is likely that the greatest disparities still would remain between students own attitudes and those of their parents.

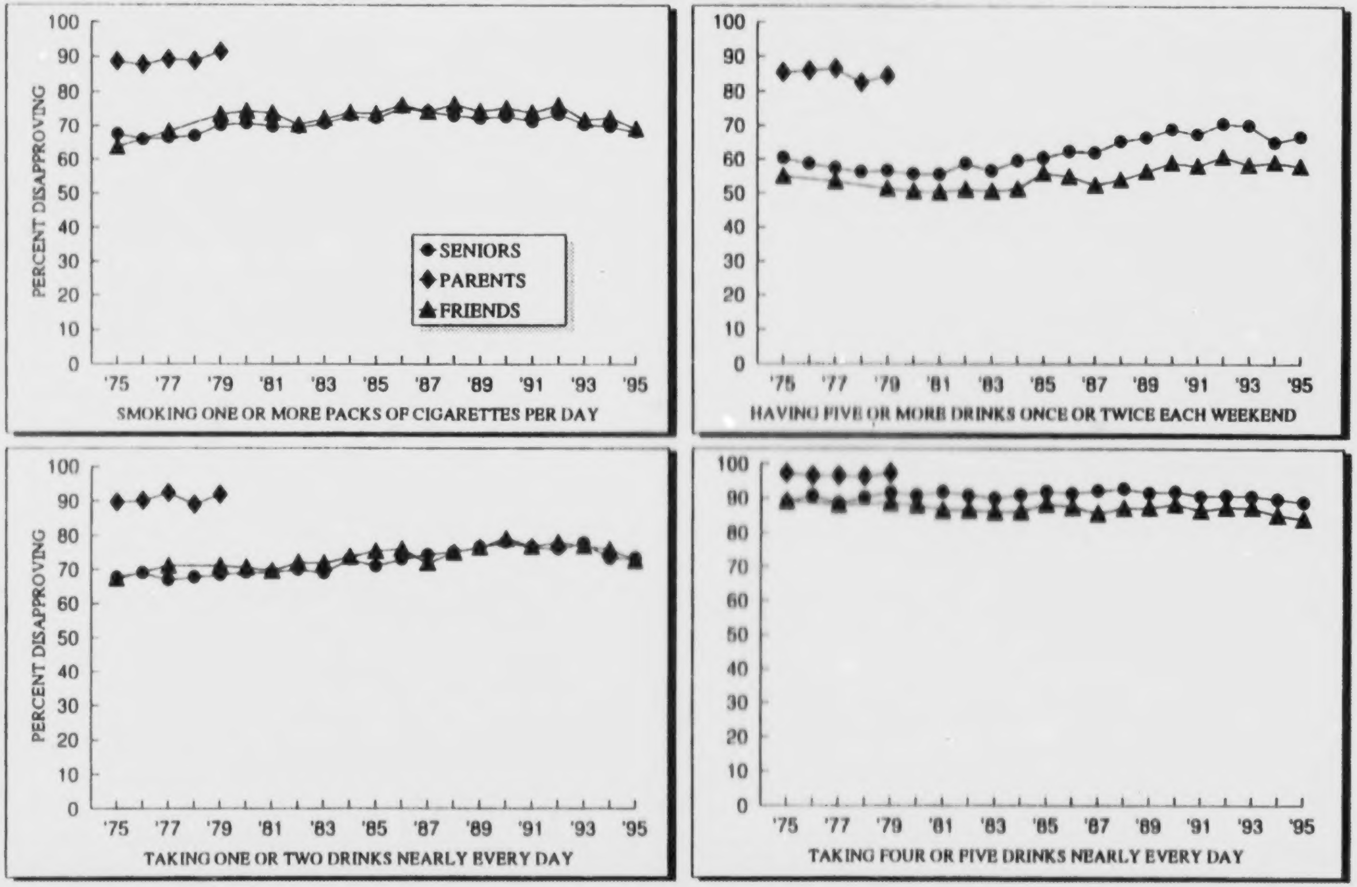
Trends in Perceptions of Parents' and Friends' Attitudes

A number of important changes in twelfth graders' perceptions of their peers' attitudes have taken place. These shifts are presented graphically in Figures 32a, 32b, and 33. Adjusted trend lines have been used for data before 1980: We discovered that the deletion in 1980 of the parental attitude questions, which were located immediately preceding the questions about friends' attitudes, removed what we judged to be an artifactual depression of the

FIGURE 33

Trends in Disapproval of Licit Drug Use

Twelfth Graders, Parents, and Peers



SMOKING ONE OR MORE PACKS OF CIGARETTES PER DAY

HAVING FIVE OR MORE DRINKS ONCE OR TWICE EACH WEEKEND

TAKING ONE OR TWO DRINKS NEARLY EVERY DAY

TAKING FOUR OR FIVE DRINKS NEARLY EVERY DAY

NOTE: The 1975, 1977, and 1979 points indicating the percentage of seniors who said their friends would disapprove have been adjusted to compensate for lack of comparability of question-context between administration years. (See text for discussion.)

ratings of friends' attitudes, a phenomenon known as a question-context effect. This effect was particularly evident in the trend lines dealing with alcohol use, where otherwise smooth trend lines showed abrupt upward shifts in 1980. It appears that when questions about parents' attitudes were present, respondents tended to understate peer disapproval in order to emphasize the *difference* in attitudes between their parents and their peers. In the adjusted lines, we have attempted to correct for that artifactual depression in the 1975, 1977, and 1979 scores.[38] We think the adjusted trend lines give a more accurate picture of the change which took place then. Note that the question-context effect seems to have had more influence on the questions dealing with cigarettes and alcohol than on those dealing with illicit drugs. Aside from this change attributable to question context, a number of real and important changes have occurred.

- For each level of ***marijuana*** use—trying once or twice, occasional use, and regular use—there was a *drop* in perceived disapproval for both parents and friends through 1979. We know from our other findings that these perceptions of peers norms correctly reflected actual shifts in the individual attitudes of their peers—that is, disapproval of marijuana use was in fact decreasing among seniors (see Figures 32a and 32b). There is little reason to suppose such perceptions are less accurate in reflecting shifts in parents' attitudes. Therefore, we conclude that the social norms regarding marijuana use among adolescents and adults had been relaxing before 1979. However, consistent with the seniors' reports about their own attitudes, there was a sharp reversal in peer norms, and peer disapproval of marijuana use continued to increase for more than a decade, through 1992. In 1993 another sharp reversal occurred, with the percent of seniors saying that their friends would disapprove dropping from 5 to 7 percentage points, depending on the level of use (i.e., once or twice, occasionally, or regularly). Perceived peer disapproval had dropped another 5 to 9 percentage points by 1995.

- From 1975 through 1979 relatively little change in either self-reported attitudes or perceived peer attitudes toward trying ***amphetamines*** once or twice occurred; then in 1981 both measures showed significant and parallel dips in disapproval, and at the same time use rose sharply. Since 1981 disapproval rose, as use declined. In 1994 personal disapproval of both experimental and regular use decreased significantly, as use increased only slightly. However, in this case reported peer disapproval actually increased some–an unusual divergence from self-reported attitudes. The senior's disapproval and use of ***amphetamines*** leveled in 1995 while friend's perceived disapproval dropped further.

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[38] The correction evolved as follows: We assumed that a more accurate estimate of the true change between 1979 and 1980 could be obtained by taking an average of the changes observed in the year prior and the year subsequent, rather than by taking the observed change (which we knew to contain the effect of a change in question context). We thus calculated an *adjusted* 1979-1980 change score by taking an average of one-half the 1977-1979 change score (our best estimate of the 1978-1979 change) plus the 1980-1981 change score. This estimated change score was then subtracted from the observed change score for 1979-1980, the difference being our estimate of the amount by which peer disapproval of the behavior in question was being understated because of the context in which the questions occurred prior to 1980. The 1975, 1977, and 1979 observations were then adjusted upward by the amount of that correction factor.

- Peer disapproval of ***LSD***, which has been high and relatively stable for some years, decreased significantly in 1993 as use increased significantly. In 1995 peer disapproval decreased slightly (not significantly) while use increased significantly. In fact, the peak level for friends' disapproval of LSD occurred in 1988, when 90% said their friends would disapprove trying it. In 1995 this statistic remained level at 83%, after nearly a 4 percentage point drop in 1993.

- While perceived attitudes of friends was not asked for ***barbiturates***, it seems likely that such perceptions moved in parallel to the seniors' own attitudes, since such parallel movement has been observed for virtually all other drugs (see Figures 32a and 32b).

- Seniors' own disapproval of experimental ***cocaine*** use dropped between 1975 to 1979 as use increased, and then rose very gradually through 1992. Questions on friends' attitudes about cocaine use were added to the study in 1986. Between 1986 and 1992 a sharp increase in peer disapproval of experimental or occasional cocaine use was observed, with the proportion saying that their close friends would disapprove of their experimenting with cocaine rising from 80% in 1986 to 92% in 1992. This corresponds to the period in which an even larger increase in perceived risk occurred, and we hypothesize that the change in the perceived dangers of a drug contribute to changes in the acceptability of using that drug.[39] In 1993, perceived friends' disapproval stabilized, and remained so through 1995.

- Regarding ***regular cigarette smoking***, the proportion of seniors saying that their friends would disapprove of them smoking a pack-a-day or more rose from 64% (adjusted) in 1975 to 74% in 1980. Through the next 12 years perceived peer disapproval fluctuated by only a few percentage points, then dropped significantly between 1992 and 1993 (from 76% to 72%). By 1995 it dropped to 69%.

- For alcohol the perceived peer norms for ***weekend binge drinking*** generally moved in parallel with seniors' statements about their own personal disapproval; a slight decline in disapproval occurred in the mid-1970s and early 1980s followed by a period of gradual increase between 1983 and 1992. Some divergence occurred when seniors' reports of their own attitudes became less tolerant, while perceived peer norms changed more slowly, suggesting some "collective ignorance" of the extent to which peers disapproved of this activity. Both measures declined some between 1992 and 1994, again with self-reported attitudes moving faster, this time reducing the gap between them. In

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[39] Johnston, L.D. (1991) Toward a theory of drug epidemics. *In* R.L. Donohew, H. Sypher, & W. Bukoski (Eds.), *Persuasive communication and drug abuse prevention* (pp. 93-132). Hillsdale, N.J.: Lawrence Erlbaum.

1995 friends' disapproval continued to decline while the senior's own disapproval rose slightly.

- ***Heavy daily drinking*** is seen by the great majority (84% in 1995) as disapproved by peers, with little systematic change over more than a decade. Taking ***one or two drinks nearly every day*** saw some growth in peer disapproval between 1981 and 1990, but a gradual decline since.

FRIENDS' USE OF DRUGS

It is generally acknowledged that much youthful drug use is initiated through a peer social-learning process, and research has shown a high correlation between an individual's illicit drug use and that of his or her friends. Such a correlation can, and probably does, reflect several different causal patterns: (a) a person with friends who use a drug will be more likely to try the drug; (b) conversely, the individual who is already using a drug will be likely to introduce friends to the experience; and (c) users are more likely to establish friendships with other users.

Given the potential importance of exposure to drug use by others, we thought it would be useful to monitor students' association with others taking drugs, as well as their perceptions about the extent to which their friends use drugs. Two sets of questions, each on a different questionnaire form and each covering all or nearly all of the categories of drug use treated in this report, asked seniors to indicate (a) how often during the past twelve months they were around people taking each of the drugs to get high or for "kicks," and (b) what proportion of their own friends use each of the drugs. (The data dealing with direct exposure to use may be found in Table 26. The questions dealing with friends' use are shown in Tables 27 and 28.) Responses to these two questions are highly correlated with the respondents' own drug use; thus, for example, seniors who have recently used marijuana are much more likely to report that they have been around others getting high on marijuana, and that most of their friends use it. The questions on proportions of friends using the various drugs were included in the questionnaires used with eighth and tenth graders and the results for those age groups will be discussed in a separate section below.

Exposure to Drug Use by Friends and Others: Twelfth Graders

- A comparison of the aggregated responses about friends' use and about being around people in the last twelve months who were using various drugs to get high reveals a high degree of correspondence between these two indicators of exposure, even though these two questions appear on separate forms of the questionnaire. For each drug, the proportion of respondents saying "none" of their friends use it is fairly close to the proportion who say that during the last twelve months they have not been around anyone who was using that drug to get high. Similarly, the proportion reporting that "most" or "all" of their friends use a given drug is roughly the same as the proportion saying they are "often" around people getting high on that drug.

TABLE 26

Trends in Twelfth Graders' Exposure to Drug Use

(Entries are percentages)

Q *During the LAST 12 MONTHS how often have you been around people who were taking each of the following to get high or for "kicks"?*	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Any illicit drug[a]																						
% saying not at all	—	17.4	16.5	15.1	15.0	15.7	17.3	18.6	20.6	22.1	22.3	24.5	26.1	28.7	31.4	32.4	35.8	38.7	33.9	29.2	24.7	-4.5ss
% saying often	—	34.8	39.0	40.7	40.4	36.3	36.1	31.4	29.8	28.3	27.2	26.3	23.3	20.8	22.0	20.7	18.2	18.0	24.0	29.3	32.3	+3.0
Any illicit drug[a] except marijuana																						
% saying not at all	—	44.9	44.2	44.7	41.7	41.5	37.4	37.5	40.6	40.2	40.7	44.7	48.3	52.2	52.9	54.6	60.0	58.4	57.4	54.7	52.8	-1.9
% saying often	—	11.8	13.5	12.1	13.7	14.1	17.1	16.6	14.2	14.6	12.9	12.1	10.2	9.6	10.7	9.2	7.9	7.5	9.6	9.4	11.1	+1.7
Marijuana																						
% saying not at all	—	20.5	19.0	17.3	17.0	18.0	19.8	22.1	23.8	25.6	26.5	28.0	29.6	33.0	35.2	36.6	40.4	43.2	39.0	32.8	27.3	-5.5sss
% saying often	—	32.5	37.0	39.0	38.9	33.8	33.1	28.0	26.1	24.8	24.2	24.0	20.6	17.9	19.5	17.8	16.0	15.6	20.9	27.6	30.7	+3.1s
LSD																						
% saying not at all	—	78.8	80.0	81.9	81.9	82.8	82.6	83.9	86.2	87.5	86.8	86.9	87.1	86.6	85.0	85.1	84.3	82.2	79.0	75.8	73.9	-1.9
% saying often	—	2.2	2.0	1.8	2.0	1.4	2.0	1.9	1.4	1.5	1.3	1.6	1.8	1.6	2.2	2.6	2.9	3.0	3.9	4.2	6.1	+1.9s
Other Psychedelics																						
% saying not at all	—	76.5	76.7	76.7	77.6	79.6	82.4	83.2	86.9	87.3	87.5	88.2	90.0	91.0	91.2	90.6	90.6	90.3	87.9	86.0	84.2	-1.8
% saying often	—	3.1	3.2	2.9	2.2	2.2	2.0	2.6	1.1	1.7	1.4	1.5	1.2	1.1	1.3	1.2	1.3	1.1	1.9	2.3	2.5	+0.2
Cocaine																						
% saying not at all	—	77.0	73.4	69.8	64.0	62.3	63.7	65.1	66.7	64.4	61.7	62.6	65.1	69.8	69.8	72.3	78.7	80.2	80.8	81.2	78.4	-2.8s
% saying often	—	3.0	3.7	4.6	6.8	5.9	6.6	6.6	5.2	6.7	7.1	7.8	5.9	5.1	5.4	4.7	3.4	2.7	2.9	2.5	3.2	+0.7
Heroin																						
% saying not at all	—	91.4	90.3	91.8	92.4	92.6	93.4	92.9	94.9	94.0	94.5	94.0	94.2	94.3	93.5	94.6	94.9	94.6	94.3	92.7	92.1	-0.6
% saying often	—	0.8	1.1	0.9	0.7	0.4	0.6	1.0	0.7	1.1	0.5	1.0	0.9	0.8	1.0	0.5	0.9	0.7	1.1	0.7	1.2	+0.5
Other Narcotics																						
% saying not at all	—	81.9	81.3	81.8	82.0	80.4	82.5	81.5	82.7	82.0	81.6	84.4	85.6	85.2	86.2	85.8	88.7	88.9	87.6	85.1	84.5	-0.6
% saying often	—	1.8	2.4	2.0	1.7	1.7	1.7	2.4	2.2	2.0	1.8	2.1	1.7	1.7	1.7	1.6	1.4	1.3	1.7	1.7	2.1	+0.4
Amphetamines																						
% saying not at all	—	59.6	60.3	60.9	58.1	59.2	50.5	49.8	53.9	55.0	59.0	63.5	68.3	72.1	72.6	71.7	76.4	75.5	75.3	71.8	71.9	+0.1
% saying often	—	6.8	7.9	6.7	7.4	8.3	12.1	12.3	10.1	9.0	6.5	5.8	4.5	4.1	4.7	4.1	3.1	3.0	3.9	4.1	4.5	+0.4
Barbiturates																						
% saying not at all	—	69.0	70.0	73.5	73.6	74.8	74.1	74.3	77.5	78.8	81.1	84.2	86.9	87.6	88.2	86.7	90.0	89.8	88.1	87.0	85.5	-1.5
% saying often	—	4.5	5.0	3.4	3.3	3.4	4.0	4.3	3.0	2.7	1.7	2.1	1.5	1.4	1.7	1.7	1.2	1.1	1.6	1.7	2.0	+0.3
Tranquilizers																						
% saying not at all	—	67.7	66.0	67.5	67.5	70.9	71.0	73.4	76.5	76.9	76.6	80.4	81.6	81.8	84.9	83.7	85.8	87.3	86.2	83.5	84.3	+0.8
% saying often	—	5.5	6.3	4.9	4.3	3.2	4.2	3.5	2.9	2.9	2.2	2.5	2.6	2.2	2.1	1.9	1.4	1.9	1.7	1.8	2.3	+0.5
Alcoholic beverages																						
% saying not at all	—	6.0	5.6	5.6	5.2	5.3	6.0	6.0	6.0	6.0	6.0	5.9	6.1	6.9	7.7	6.4	8.3	9.4	8.2	10.0	8.8	-1.2
% saying often	—	57.1	60.8	60.8	61.2	60.2	61.0	59.3	60.2	58.7	59.5	58.0	58.7	56.4	55.5	56.1	54.5	53.1	51.9	54.0	54.0	0.0
Approx. N =	—	*2950*	*3075*	*3682*	*3253*	*3259*	*3608*	*3645*	*3334*	*3238*	*3252*	*3078*	*3296*	*3300*	*2795*	*2556*	*2525*	*2630*	*2730*	*2581*	*2608*	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] These estimates were derived from responses to the questions listed. "Any illicit drug" includes all drugs listed except alcohol.

TABLE 27

Trends in Friends' Use of Drugs as Estimated by Eighth, Tenth, and Twelfth Graders, 1991-95

(Entries are percentages)

Q. How many of your friends would you estimate . . .	8th Grade						10th Grade						12th Grade					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Smoke marijuana																		
% saying none	78.1	74.9	69.2	58.9	53.9	-5.0sss	51.7	54.1	47.3	36.6	31.5	-5.1ss	34.2	36.9	32.6	24.4	23.9	-0.5
% saying most or all	3.3	4.1	6.0	10.5	12.7	+2.2sss	7.9	8.0	11.2	18.0	21.3	+3.3ss	10.0	10.3	13.9	18.9	20.7	+1.8
Use inhalants																		
% saying none	79.5	76.9	73.7	70.8	67.9	-2.9s	82.7	82.2	78.9	76.4	74.7	-1.7	80.8	77.8	76.3	73.5	72.5	-1.0
% saying most or all	2.4	2.9	3.7	4.2	5.0	+0.8s	1.4	1.5	1.8	2.0	2.1	+0.1	0.7	1.8	1.8	2.0	2.0	0.0
Take crack																		
% saying none	91.4	89.1	87.5	84.8	82.3	-2.5ss	86.8	86.8	84.9	82.7	80.2	-2.5ss	82.4	82.2	82.1	80.0	80.8	+0.8
% saying most or all	0.9	1.0	1.3	1.6	1.6	0.0	0.8	0.7	0.9	1.0	1.2	+0.2	0.6	0.7	0.9	1.0	1.1	+0.1
Take cocaine powder																		
% saying none	91.6	89.3	87.9	85.7	83.8	-1.9s	85.3	85.9	84.6	82.7	80.3	-2.4s	80.2	80.3	81.9	79.3	80.8	+1.5
% saying most or all	0.9	1.1	1.3	1.7	1.6	-0.1	0.8	0.8	0.8	1.1	1.3	+0.2	1.8	2.0	1.6	1.9	1.7	-0.2
Take heroin																		
% saying none	93.9	92.7	91.1	89.7	88.4	-1.3s	92.2	91.9	90.7	89.5	88.9	-0.6	88.6	86.8	86.7	85.7	85.5	-0.2
% saying most or all	0.7	0.9	0.9	1.3	1.3	0.0	0.6	0.6	0.7	0.6	0.8	+0.2	0.4	0.7	1.1	1.0	1.1	+0.1
Drink alcoholic beverages																		
% saying none	27.9	23.6	24.3	23.0	24.1	+1.1	7.1	8.7	8.2	7.2	7.8	+0.6	8.8	9.5	11.1	9.9	9.1	-0.8
% saying most or all	21.0	23.7	25.5	27.4	27.5	+0.1	49.6	48.2	49.9	50.3	50.7	+0.4	58.6	56.9	57.0	59.6	56.4	-3.2
Get drunk at least once a week																		
% saying none	57.2	52.0	52.0	49.7	51.3	+1.6	24.9	27.4	25.5	23.1	24.7	+1.6	20.2	20.1	20.8	18.6	21.1	+2.5
% saying most or all	7.2	8.4	9.0	10.6	9.9	-0.7	19.3	18.6	20.2	20.3	20.6	+0.3	29.7	28.6	27.6	28.4	27.4	-1.0
Smoke cigarettes																		
% saying none	32.3	27.6	26.2	23.9	23.9	0.0	18.8	18.0	14.6	13.7	12.0	-1.7ss	14.3	15.6	15.2	11.9	12.1	+0.2
% saying most or all	11.8	14.4	16.7	19.0	20.5	+1.5	18.2	18.7	22.8	24.7	27.8	+3.1ss	21.8	21.4	25.0	25.3	27.5	+2.2
Use smokeless tobacco																		
% saying none	63.5	62.5	62.7	61.4	62.2	+0.8	46.9	46.9	42.5	41.6	42.1	+0.5	—	—	—	—	—	—
% saying most or all	3.8	4.2	3.8	4.8	4.7	-0.1	7.5	7.3	7.7	7.6	7.3	-0.3	—	—	—	—	—	—
Approx. N=	*15975*	*16606*	*16536*	*15791*	*15271*		*14258*	*14008*	*14572*	*15039*	*16130*		*2339*	*2373*	*2410*	*2337*	*2379*	

NOTES: Level of significance of difference between the two years: s =.05, ss =.01, sss =.001. '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE 28

Long-Term Trends in Proportion of Friends Using Drugs as Estimated by Twelfth Graders

(Entries are percentages)

Q. *How many of your friends would you estimate . . .*	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94-'95 change
Take any illicit drug[a]																						
% saying none	14.2	15.4	13.1	12.5	11.0	12.5	14.6	13.7	17.4	19.0	17.6	17.8	18.3	20.9	23.1	29.0	30.9	32.7	29.0	21.7	21.4	-0.3
% saying most or all	31.9	31.7	33.2	36.3	37.0	32.5	29.8	26.5	23.8	20.9	22.7	21.5	18.6	15.8	15.7	11.6	11.7	12.0	15.5	20.3	21.7	+1.4
Take any illicit drug[a] other than marijuana																						
% saying none	33.3	44.5	42.5	43.6	38.7	37.6	36.7	35.3	38.8	38.7	38.2	36.7	37.6	43.5	43.8	49.9	53.7	52.9	51.3	46.3	46.3	0.0
% saying most or all	10.6	8.9	7.7	8.5	10.4	11.1	11.9	10.9	11.0	10.3	10.4	10.3	9.2	6.9	7.7	5.1	4.6	5.3	7.1	7.1	7.7	+0.6
Smoke marijuana																						
% saying none	17.0	17.1	14.1	13.9	12.4	13.6	17.0	15.6	19.7	22.3	20.5	20.8	21.6	24.7	27.5	31.7	34.2	36.9	32.6	24.4	23.9	-0.5
% saying most or all	30.3	30.6	32.3	35.3	35.5	31.3	27.7	23.8	21.7	18.3	19.8	18.2	15.8	13.6	13.4	10.1	10.0	10.3	13.9	18.9	20.7	+1.8
Use inhalants																						
% saying none	75.7	81.4	81.1	80.0	80.9	82.2	83.5	81.6	83.9	80.7	78.8	77.6	75.3	79.2	77.9	80.0	80.8	77.8	76.3	73.5	72.5	-1.0
% saying most or all	1.1	1.1	1.0	1.1	1.1	1.2	0.9	1.3	1.1	1.1	1.5	2.0	1.9	1.2	1.9	1.0	0.7	1.8	1.8	2.0	2.0	0.0
Use nitrites																						
% saying none	—	—	—	—	78.4	81.0	82.6	82.5	85.5	85.0	84.4	82.0	81.7	86.4	86.7	89.6	91.1	91.0	89.3	90.0	89.3	-0.7
% saying most or all	—	—	—	—	1.9	1.3	1.2	0.9	0.7	1.2	1.0	1.2	1.3	0.7	0.9	0.6	0.4	0.7	0.7	0.8	0.8	0.0
Take LSD																						
% saying none	63.5	69.4	68.1	70.1	71.1	71.9	71.5	72.2	76.0	76.1	75.6	75.5	74.7	75.9	74.8	75.0	76.6	71.9	68.7	65.9	63.1	-2.8
% saying most or all	2.7	2.8	3.0	2.0	1.9	1.8	2.2	2.4	1.4	2.0	1.5	1.8	1.6	1.5	2.4	1.9	1.7	2.4	3.8	4.2	4.8	+0.6
Take other psychedelics																						
% saying none	58.8	69.7	68.6	70.8	71.8	71.8	73.7	74.4	77.9	78.7	78.0	77.7	78.3	82.2	81.9	84.1	84.9	83.0	80.7	78.6	76.2	-2.4
% saying most or all	4.7	3.0	2.8	2.0	2.2	2.2	2.1	1.9	1.6	1.9	1.4	1.3	1.2	0.9	1.4	1.0	0.8	1.0	1.7	2.2	2.2	0.0
Take PCP																						
% saying none	—	—	—	—	72.2	77.8	82.8	82.7	85.8	85.8	84.1	83.9	84.5	86.5	86.3	87.0	88.0	87.3	84.4	84.5	81.7	-2.8s
% saying most or all	—	—	—	—	1.7	1.6	0.9	0.9	1.1	1.1	1.2	1.2	1.1	0.8	1.2	0.5	0.5	0.9	1.9	1.2	1.2	0.0
Take MDMA (ecstasy)																						
% saying none	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	87.6	88.1	89.3	87.2	84.1	79.3	-4.8ss
% saying most or all	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.2	1.7	2.1	1.2	1.7	2.8	+1.1s
Take cocaine																						
% saying none	66.4	71.2	69.9	66.8	61.1	58.4	59.9	59.3	62.4	61.1	56.2	54.4	56.3	62.3	62.6	68.3	73.2	73.7	75.5	73.9	75.2	+1.3
% saying most or all	3.4	3.2	3.6	4.0	6.0	6.1	6.3	4.9	5.1	5.1	5.8	6.2	5.1	3.4	3.7	2.1	1.5	1.5	2.1	1.5	2.0	+0.5
Take crack																						
% saying none	—	—	—	—	—	—	—	—	—	—	—	—	72.6	74.6	73.9	80.8	82.4	82.2	82.1	80.0	80.8	+0.8
% saying most or all	—	—	—	—	—	—	—	—	—	—	—	—	2.2	1.1	2.1	0.6	0.6	0.7	0.9	1.0	1.1	+0.1
Take cocaine powder																						
% saying none	—	—	—	—	—	—	—	—	—	—	—	—	—	—	74.7	75.4	80.2	80.3	81.9	79.3	80.8	+1.5
% saying most or all	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.3	2.5	1.8	2.0	1.6	1.9	1.7	-0.2

SOURCE: The Monitoring the Future Study, the University of Michigan.

(Table continued on next page)

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TABLE 28 (cont.)

Long-Term Trends in Proportion of Friends Using Drugs as Estimated by Twelfth Graders

(Entries are percentages)

Q. *How many of your friends would you estimate . . .*	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94-'95 change
Take heroin																						
% saying none	84.8	86.4	87.1	85.7	87.1	87.0	87.5	86.8	88.0	87.0	85.5	84.7	86.1	87.6	86.0	88.6	88.6	86.8	86.7	85.7	85.5	-0.2
% saying most or all	0.7	0.8	0.7	0.9	0.5	1.0	0.5	0.7	0.8	0.8	0.9	1.1	0.9	0.7	1.1	0.4	0.4	0.7	1.1	1.0	1.1	+0.1
Take other narcotics																						
% saying none	71.2	75.9	76.3	76.8	76.9	77.6	76.9	76.1	79.2	78.6	77.2	78.2	76.8	80.8	80.8	82.8	86.3	85.1	83.9	81.5	80.5	-1.0
% saying most or all	2.1	2.2	1.7	1.4	1.5	1.7	1.5	1.4	1.4	1.6	1.4	1.8	1.4	1.2	1.4	0.9	0.5	1.1	1.2	1.0	1.6	+0.6
Take amphetamines																						
% saying none	49.0	57.8	58.7	59.3	59.3	56.1	51.2	49.4	53.9	54.9	56.7	58.2	60.5	66.6	66.5	71.3	75.7	75.7	72.5	71.9	69.7	-2.2
% saying most or all	5.9	5.6	4.1	4.7	4.3	4.8	6.4	5.4	5.1	4.5	3.4	3.4	2.6	1.9	2.6	1.9	1.3	1.3	2.0	1.8	2.0	+0.2
Take crystal meth. (ice)																						
% saying none	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.9	89.8	91.1	90.6	88.2	87.1	-1.1
% saying most or all	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.7	1.0	1.5	1.2	1.5	1.7	+0.2
Take barbiturates																						
% saying none	55.0	63.7	65.3	67.5	69.3	69.5	68.9	68.7	71.7	73.4	72.9	74.4	75.7	80.3	79.7	82.6	85.2	83.6	82.2	81.8	82.2	+0.4
% saying most or all	4.3	3.5	3.0	2.3	2.1	2.6	2.1	1.8	1.7	1.7	1.6	1.4	1.1	1.1	1.4	0.6	0.5	0.6	1.0	1.1	1.4	+0.3
Take quaaludes																						
% saying none	68.3	73.0	71.7	73.0	72.3	67.5	65.0	64.5	70.3	73.9	74.0	76.5	78.0	82.9	83.4	85.7	88.0	86.9	85.8	85.8	84.5	-1.3
% saying most or all	3.0	1.8	2.9	2.2	2.8	3.6	3.6	2.6	2.6	1.7	1.3	1.6	1.0	1.0	1.3	0.8	0.5	0.8	1.1	1.1	1.3	+0.2
Take tranquilizers																						
% saying none	54.4	63.7	62.2	65.2	68.0	70.3	70.5	70.1	73.3	73.4	74.2	75.8	76.7	80.1	82.0	85.1	86.5	85.4	84.5	83.5	84.2	+0.7
% saying most or all	3.5	3.1	2.7	1.8	2.0	1.9	1.4	1.1	1.2	1.5	1.2	1.3	1.0	0.7	1.5	0.5	0.4	0.7	0.9	0.9	1.1	+0.2
Drink alcoholic beverages																						
% saying none	3.3	4.9	5.6	5.1	4.6	3.9	5.3	4.3	4.5	5.4	5.4	4.4	4.6	4.3	4.9	8.0	8.8	9.5	11.1	9.9	9.1	-0.8
% saying most or all	68.4	64.7	66.2	68.9	68.5	68.9	67.7	69.7	69.0	66.6	66.0	68.0	71.8	68.1	67.1	60.5	58.6	56.9	57.0	59.6	56.4	-3.2
Get drunk at least once a week																						
% saying none	17.6	19.3	19.0	18.0	16.7	16.9	18.2	16.9	16.1	18.5	17.5	15.3	14.4	15.6	17.2	20.8	20.2	20.1	20.8	18.6	21.1	+2.5
% saying most or all	30.1	26.6	27.6	30.2	32.0	30.1	29.4	29.9	31.0	29.6	29.9	31.8	31.3	29.6	31.1	27.5	29.7	28.6	27.6	28.4	27.4	-1.0
Smoke cigarettes																						
% saying none	4.8	6.3	6.3	6.9	7.9	9.4	11.5	11.7	13.0	14.0	13.0	12.2	11.7	12.3	13.5	15.1	14.3	15.6	15.2	11.9	12.1	+0.2
% saying most or all	41.5	36.7	33.9	32.2	28.6	23.3	22.4	24.1	22.4	19.2	22.8	21.5	21.0	20.2	23.1	21.4	21.8	21.4	25.0	25.3	27.5	+2.2
Take steroids																						
% saying none	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	74.1	75.3	78.5	81.0	81.9	80.5	-1.4
% saying most or all	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.8	1.0	1.7	0.9	1.2	1.3	+0.1
Approx. N =	*2640*	*2697*	*2788*	*3247*	*2933*	*2987*	*3307*	*3303*	*3095*	*2945*	*2971*	*2798*	*2948*	*2961*	*2587*	*2361*	*2339*	*2373*	*2410*	*2337*	*2379*	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] These estimates were derived from responses to the questions listed. "Any illicit drug" includes all of the drugs listed except MDMA (ecstasy), cocaine powder, crystal methamphetamine (ice), alcohol, get drunk, cigarettes, and steroids. PCP and the nitrites were not included in 1975 through 1978. Crack was not included in 1975 through 1986.

- As would be expected, reports of exposure and friends' use closely parallel the figures on seniors' own use (compare Figures 2 and 35). It is no surprise that the highest levels of exposure involve ***alcohol***; a majority (54%) say they are "often" around people using it to get high. What may come as a surprise is that 27% of all seniors say that most or all of their friends ***get drunk*** at least once a week. (This is consistent, however, with the fact that 30% said they personally had taken five or more drinks in a row at least once during the prior two weeks.)

- After alcohol, students are exposed next most frequently to ***marijuana***. Nearly three-quarters of the twelfth graders (73%) report some exposure to marijuana during the year. Some 31% say they are "often" around people using it to get high, and another 22% say they are exposed "occasionally." One in five (21%) say that most or all of their friends smoke marijuana.

- ***Amphetamines*** are next in exposure: 28% of seniors report some exposure to use in the prior year, and 30% say they have friends who use.

- Among all seniors, 26% have been around someone using ***LSD*** to get high over the past year, and over one-third (37%) say they have friends who use it.

- For the remaining illicit drugs, any exposure to use in the past year ranges from 22% for ***cocaine*** down to 8% for ***heroin***.

- A majority of seniors (53%) report no exposure to ***illicit drugs other than marijuana*** during the prior year, but only a quarter (25%) report no exposure to ***any illicit drug*** during the year. Thus, exposure to ***marijuana*** use, at least, is still widespread, but exposure to the use of ***drugs other than marijuana*** occurs for "only" 47%.

- Only one in every four seniors (28%) reports that most or all of their friends smoke ***cigarettes***, but fully 88% have at least some friends who smoke.

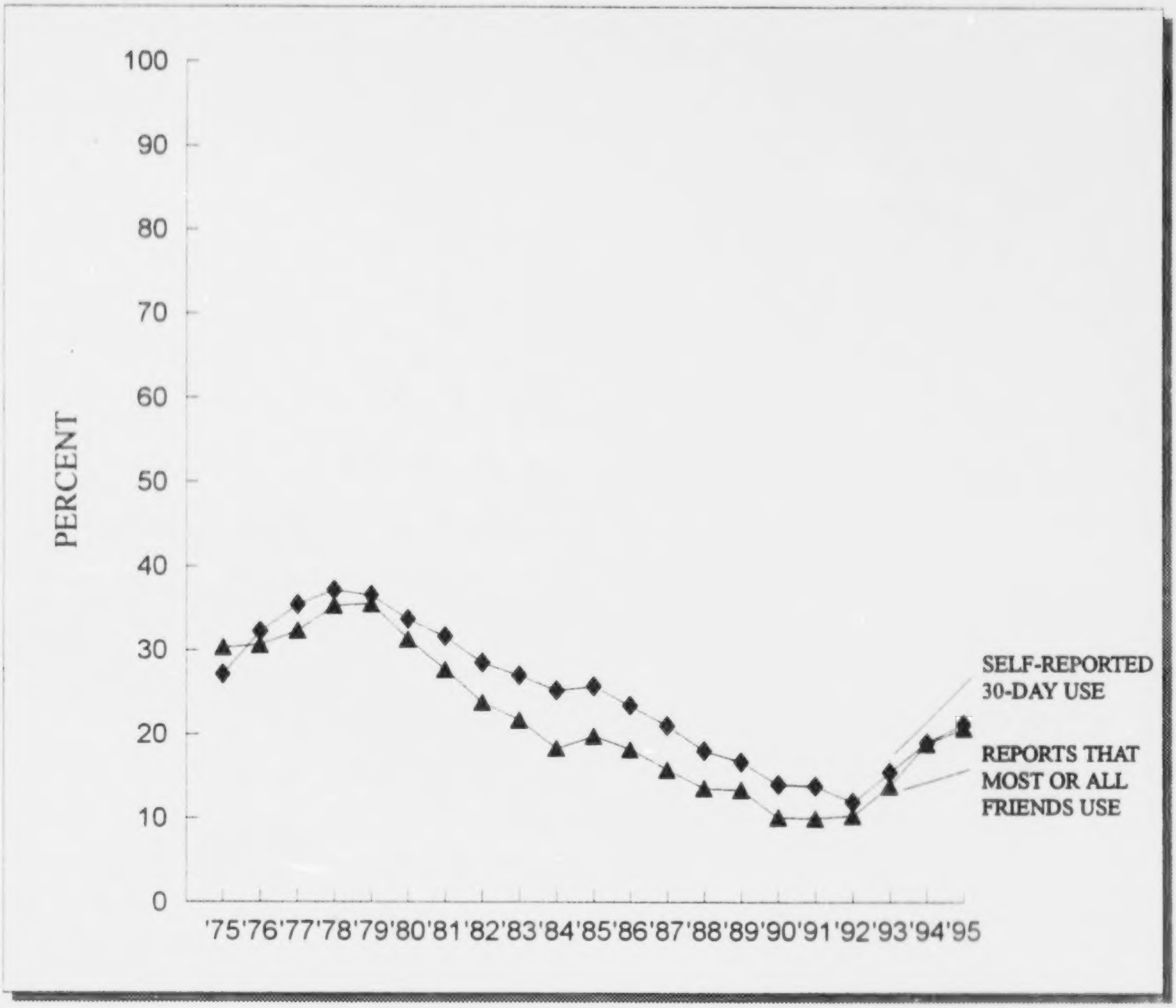
Friends' Use of Drugs: Eighth and Tenth Graders

While the questions about exposure to use were not included in the questionnaires for grades 8 and 10, the questions regarding the proportion of their friends who use each drug were.

- As would be expected, eighth and tenth grade students are considerably less likely to have friends who use the various drugs than twelfth graders (Table 27). For example, for ***cocaine powder***, ***crack***, and ***heroin*** fewer than 19% of the eighth graders and fewer than 21% of the tenth graders have any friends who use.

FIGURE 34

Trends in Thirty-Day Prevalence of Marijuana Use and Friends' Use of Marijuana for Twelfth Graders

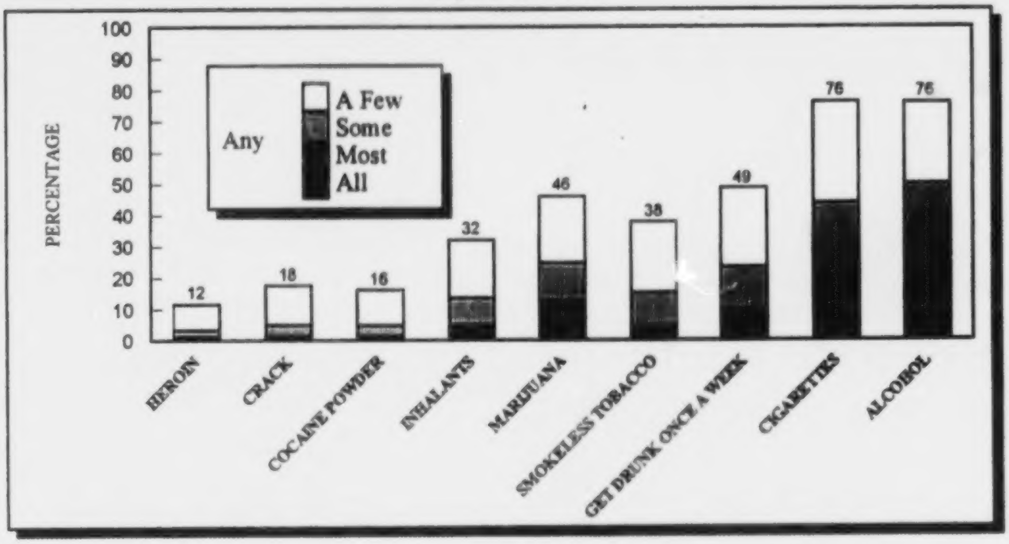


333

FIGURE 35

Proportion of Friends Using Each Drug as Estimated by Eighth, Tenth, and Twelfth Graders, 1995

Eighth Graders



Tenth Graders

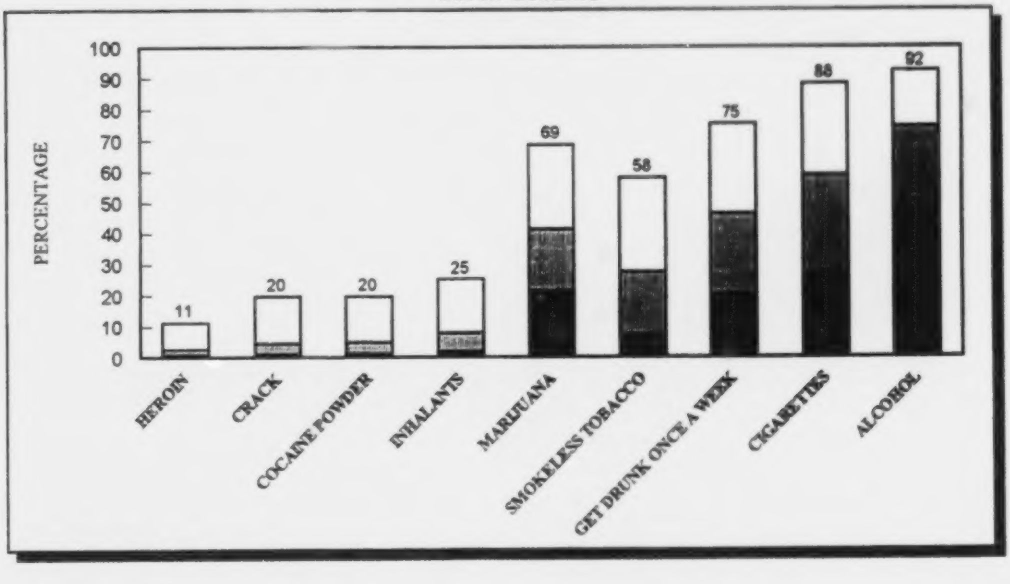
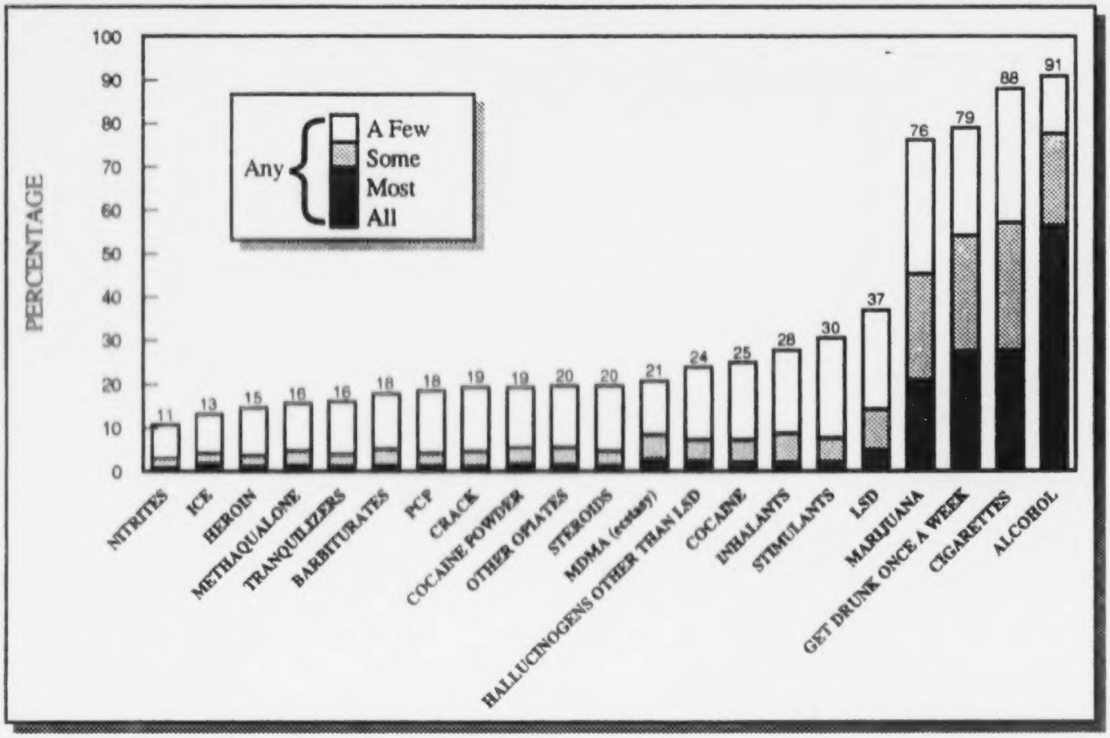


FIGURE 35 (cont.)

Proportion of Friends Using Each Drug as Estimated by Eighth, Tenth, and Twelfth Graders, 1995



Twelfth Graders

- For ***marijuana***, however, nearly half (46%) of the eighth graders and more than two-thirds (69%) of the tenth graders say they have friends who use.

- Among eighth graders, 32% have friends who use ***inhalants*** versus 25% of the tenth graders.

- Exposure to ***alcohol*** use through friends is much more widespread, with three-quarters (76%) of the eighth graders and 92% of the tenth graders having friends who use. In fact, one-fourth (28%) of the eighth graders and one-half (51%) of the tenth graders say that most or all of their friends ***drink***, and the proportions saying that most or all of their friends ***get drunk*** at least once a week is one in ten (10%) and one in five (21%), respectively.

- Exposure to ***cigarette smoking*** through friends also is very high for these children, with three-quarters (76%) of the eighth graders and 88% of the tenth graders saying they have some friends who smoke.

- More than a third of the eighth graders (38%) and more than half of the tenth graders (58%) have friends who use ***smokeless tobacco***.

TRENDS IN FRIENDS' USE OF DRUGS

Trends in Exposure to Drug Use by Friends and Others: Twelfth Graders

- Between 1976 and 1978 seniors' reports of exposure to ***marijuana*** use increased in about the same proportion as actual self-reported monthly use. Both exposure to use and actual use stabilized in 1979, and then both dropped steadily so that the proportion saying they are often around people using marijuana decreased by more than half between 1979 and 1992 (from 39% to 16%). Beginning in 1993 however, there were significant *increases* in such exposure, reaching 31% in 1995, paralleling the significant rise in self-reported use.

- ***Cocaine*** showed a consistent increase from 1976 to 1979 in the proportion of seniors exposed to users, and self-reported use also rose. From 1979 to 1984 there was little change in exposure to use coinciding with a period of stability in self-reported use. Then in 1985 and 1986 there was an increase in reported exposure to use; these were the peak years in self-reported use. After 1986 seniors' exposure to cocaine use dropped steadily, and the proportion saying they had any friends who used dropped from 46% in 1986 to 25% in 1993 (Table 28). In fact, this statistic dropped thirteen percentage points in the four year interval from 1989 to 1993. However, use rose slightly in both 1994 and 1995, and exposure to use increased in 1995 (Table 26).

- ***Inhalant*** use by friends showed some increase between 1983 and 1991, with the proportion reporting having any friends who use rising from 16% in 1983 to 19%. The statistic rose more sharply to 28% by 1995. (Exposure to inhalant use is not asked.)

- The use of ***LSD*** fell slightly from 1975 to 1984 and then stabilized for about five years. Exposure to use through friends and others followed a similar course. From 1989 to 1995 usage rates rose some (annual prevalence went from 4.9% to 8.4%) as did exposure to use (which rose from 15% to 26%).

- From 1979 to 1989 there was a gradual decrease in exposure to the use of ***psychedelics other than LSD***, which coincided with a continued decline in the self-reported use of this class of drugs. Between 1989 and 1992, friends' use remained fairly stable, followed by increases each years since; 1993, 1994, and 1995. Exposure also increased from 1992 through 1995, as did self-reported use.

- Exposure to ***tranquilizer*** use and actual use declined gradually between 1976 and 1994 when use stabilized and reported exposure rose significantly. Exposure dropped slightly in 1995 although use increased significantly.

- There was also a gradual decrease in exposure to the use of ***barbiturates*** from 1975 through 1980, followed by a leveling for two years and then further declines in exposure between 1983 (when 23% reported some exposure) and 1992 (when 10% did). The exposure rate has increased slightly since 1992 (to 15% in 1995). These changes closely parallel those in actual use.

- Trend data on friends' use of ***PCP*** and the ***nitrites*** are available from 1979 onward. For both drugs, reported friends' use dropped significantly between 1979 and 1983. By 1983 half as many twelfth graders (14%) said any of their friends used PCP as those in 1979 (28%). Reported friends' use of nitrites dropped from 22% in 1979 to 15% in 1983. Since then there has been some further decrease in friends' use for nitrites and some increase in use for ***PCP*** including a significant increase in 1995.

- The proportion having any friends who used ***amphetamines*** rose from 41% to 51% between 1979 and 1982, paralleling the sharp increase in self-reported use over that period. The proportion saying they were around people using amphetamines "to get high or for kicks" also jumped substantially between 1980 and 1982 (by 9 percentage points).[40]

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[40] This finding was important, since it indicated that a substantial part of the increase observed in self-reported amphetamine use was due to things other than simply an increase in the use of over-the-counter diet pills or stay-awake pills, which presumably are not used to get high. Obviously, more young people were using stimulants for recreational purposes. There still remained the question, of course, of whether the active ingredients in those stimulants really were amphetamines.

It then fell continually by a full 26 percentage points between 1982 and 1992 (to 25%) as self-reported use declined substantially. Since 1992 both self-reported use and exposure to use have increased.

- Between 1978 and 1981 ***methaqualone*** use rose, as did the proportion of seniors saying some of their friends used it. A decline in both seniors' use and friends' use started around 1982, and by 1991 the proportion of seniors saying they had any friends who use quaaludes fell by nearly two-thirds (down from 35% to 12% between 1981 and 1991). Seniors' usage rates showed an even larger proportional decline, but since 1991 exposure to use has been edging up and self-reported use has risen slightly as well.

- While we have not asked students about their own use of ***ecstasy (MDMA)***, the seniors report a sharp increase in the proportion who have at least some friends who are users. This measure stayed fairly stable at 12% to 13% between 1990, when it was first measured, and 1993. But by 1995, 21% said they had some friends who use ***ecstasy***.

- The proportion saying that "most or all" of their friends smoke ***cigarettes*** dropped steadily and substantially between 1976 and 1981, from 37% to 22%. During this period self-reported use dropped markedly, and more seniors perceived their friends as disapproving regular smoking. Between 1982 and 1992, friends' use and self-reported use remained relatively stable; in fact, in 1992 the friends' use rate was close to the 1981 rate. In 1977, the peak year for actual use, 34% said most or all of their friends smoked; in 1981, 22%, and in 1992, 21%. Since 1992 there has been a significant increase in the proportion saying most or all of their friends smoke cigarettes, to 28% in 1995, and self-reported smoking also increased significantly during this period.

- The proportion saying most or all of their friends ***get drunk*** at least once a week increased between 1976 and 1979, from 27% to 32%; during the same period the prevalence of self-reported, occasional heavy drinking rose by about the same amount. There was little change in either measure for about five years. Beginning in 1984 and 1985, self-reports by seniors of their own heavy drinking began to decline, but reported heavy drinking by friends has shown a more modest decline. The most impressive fact here, is that more than a quarter of all high school seniors (27% in 1995) say that most or all of their friends get drunk at least once a week, which is nearly the same proportion that say they personally have been binge drinking in the past two weeks (30%). And only one in five (21%) say that none of their friends get drunk that often.

Implications for Validity of Self-Reported Usage Questions

We have noted a high degree of correspondence in the aggregate level data presented in this report among seniors' self-reports of their *own* drug use, their reports concerning *friends'* use, and their own *exposure* to use. Drug-to-drug comparisons in any given year across these three types of measures tend to be highly parallel, as are the changes from year to year.[41] We take this consistency as additional evidence for the validity of the self-report data, and of trends in the self-report data, since there should be less reason to distort answers on use by unidentified friends, or general exposure to use, than to distort the reporting of one's own use. Figure 34 illustrates the degree of cross-time correspondence between the proportion of seniors saying they personally used marijuana in the 30 days prior to the survey and that most or all of their friends use marijuana.

TRENDS IN FRIENDS' USE: EIGHTH AND TENTH GRADERS

Trend data for grades 8 and 10, presented in Table 27, are available since 1991. In general, they also show trends which are highly consistent with the trends in self-reported use at these grade levels. These questions are asked of all eighth and tenth grade respondents so the sample sizes are very large.

- In 1992 eighth graders showed increased self-reported use of a number of drugs (including ***marijuana***, ***inhalants***, ***cocaine powder***, and ***crack***), as well as in the proportion of their friends using them. In 1993, these trends continued among eighth graders, who were then joined by tenth and twelfth graders.

- For ***marijuana***, self-reported use was again up very sharply in all grades in 1994 and 1995, a fact that was also reflected in reported use by friends. The proportions saying that some of their friends smoked marijuana rose by 10 percentage points among eighth graders in 1994 and up 11 percentage points among tenth graders (Table 27). In 1995, both grades rose an additional 5 percentage points.

- In all three grades, the proportion saying that they have friends who use ***inhalants*** has risen consistently since 1991. Self-reported usage rates have also risen over the same period.

- Among eighth and tenth graders, there were increases each year between 1993 and 1995 in the proportion of friends using ***crack, cocaine powder,*** and ***heroin*** (not all reached significance each year). The use of those drugs has also increased in these grades.

- For ***alcohol***, both the self-reported usage statistics and the statistics on friends' use have moved in fairly parallel ways since 1992. Self-

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[41] Those minor instances of noncorrespondence may well result from the larger sampling errors in our estimates of these environmental variables, which are measured on a sample size one-fifth or one-sixth the size of the self-reported usage measures.

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reported drinking in the *past 30 days* has been fairly stable in both eighth and tenth graders since 1992, as has the proportion who say they have some friends who drink alcohol. Self-reported ***drunkenness*** increased slightly in both grades from 1992 to 1994, as did the proportion saying they have some friends who get drunk weekly. Three of these measures on drunkenness then showed a little (not statistically significant) downturn in 1995, though self-reported drunkenness among tenth graders continued to rise slightly.

- The data from eighth and tenth graders show a steadily increasing proportion of friends ***smoking*** since 1991. Actual self-reported smoking rates have been on the rise in these same periods.

PERCEIVED AVAILABILITY OF DRUGS

One set of questions asks respondents how difficult they think it would be to obtain each of a number of different drugs if they wanted them. The answers range across five categories from "probably impossible" to "very easy."[42] While no systematic effort has been undertaken to assess directly the validity of these measures, it must be said that they do have a rather high level of face validity, particularly if it is the subjective reality of "perceived availability" which is purported to be measured. It also seems quite reasonable to us to assume that perceived availability tracks actual availability to some extent.

Perceived Availability

- There are substantial differences in the reported availability of the various drugs. In general, the more widely used drugs are reported to be available by the highest proportion of the age group, as would be expected (see Table 29). Also, drugs are generally more available to older age groups. Both associations are consistent with the notion that availability is largely attained through friendship circles. The higher the proportion of the friendship circle who uses the drug, the greater proportion of students who have access to it. (Older students know more users.)

- We assume that many ***inhalants***—such as glues, butane, and aerosols—are universally available; therefore, a question on their availability was not included.

- In addition, the availability of ***alcohol*** and ***cigarettes*** was not asked of seniors since we assume that these drugs are almost universally available to them, as well. However, eighth and tenth graders are asked the availability of ***alcohol*** and ***cigarettes***, and even at these grade levels the availability is extremely high.

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[42] In the questionnaires used with eighth and tenth graders, an additional answer category of "can't say, drug unfamiliar" is offered; respondents who chose this answer are included in the calculation of percentages. Generally less than 20% of the respondents selected this answer.

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TABLE 29

Trends in Perceived Availability of Drugs Eighth, Tenth, and Twelfth Graders, 1992–95

Q. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Percent saying "fairly easy" or "very easy" to get[a]														
	8th Grade					10th Grade					12th Grade				
	1992	1993	1994	1995	'94–'95 change	1992	1993	1994	1995	'94–'95 change	1992	1993	1994	1995	'94–'95 change
Marijuana	42.3	43.8	49.9	52.4	+2.5ss	65.2	68.4	75.0	78.1	+3.1sss	82.7	83.0	85.5	88.5	+3.0ss
LSD	21.5	21.8	21.8	23.5	+1.7s	33.6	35.8	36.1	39.8	+3.7sss	44.5	49.2	50.8	53.8	+3.0
PCP[b]	18.0	18.5	17.7	19.0	+1.3	23.7	23.4	23.8	24.7	+0.9	31.7	31.7	31.4	31.0	-0.4
Crack	25.6	25.9	26.9	28.7	+1.8s	33.7	33.0	34.2	34.6	+0.4	43.5	43.6	40.5	41.9	+1.4
Cocaine Powder	25.7	25.9	26.4	27.8	+1.4	35.0	34.1	34.5	35.3	+0.8	48.0	45.4	43.7	43.8	+0.1
Heroin	19.7	19.8	19.4	21.1	+1.7s	24.3	24.3	24.7	24.6	-0.1	34.9	33.7	34.1	35.1	+1.0
Other Opiates[b]	19.8	19.0	18.3	20.3	+2.0	26.9	24.9	26.9	27.8	+0.9	37.1	37.5	38.0	39.8	+1.8
Amphetamines	32.2	31.4	31.0	33.4	+2.4ss	43.4	46.4	46.6	47.7	+1.1	58.8	61.5	62.0	62.8	+0.8
Crystal Meth. (Ice)[b]	16.0	15.1	14.1	16.0	+1.9	18.8	16.4	17.8	20.7	+2.9ss	26.0	26.6	25.6	27.0	+1.4
Barbiturates	27.4	26.1	25.3	26.5	+1.2	38.0	38.8	38.3	38.8	+0.5	44.0	44.5	43.3	42.3	-1.0
Tranquilizers	22.9	21.4	20.4	21.3	+0.9	31.6	30.5	29.8	30.6	+0.8	40.9	41.1	39.2	37.8	-1.4
Alcohol	76.2	73.9	74.5	74.9	+0.4	88.6	88.9	89.8	89.7	-0.1	—	—	—	—	—
Cigarettes	77.8	75.5	76.1	76.4	+0.3	89.1	89.4	90.3	90.7	+0.4	—	—	—	—	—
Steroids	24.0	22.7	23.1	23.8	+0.7	37.6	33.6	33.6	34.8	+1.2	46.8	44.8	42.9	45.5	+2.6
Approx. N =	*8355*	*16775*	*16119*	*15496*		*7014*	*14652*	*15192*	*16209*		*2586*	*2670*	*2526*	*2552*	

NOTES: Level of significance of difference between the two years: s =.05, ss =.01, sss =.001. '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Answer alternatives were: (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, (5) Very easy. For 8th and 10th grades, there was another category—"Can't say, drug unfamiliar"—which was included in the calculation of these percentages.

[b] 8th and 10th grade only: Data based on one of two forms; N is one-half of N indicated in 1993-95.

- Among 8th and 10th graders ***cigarettes*** are seen as most available: 76% of eighth graders and 91% of tenth graders think they would be "fairly easy" or "very easy" to get.

- ***Alcohol*** also is seen as readily available by the great majority of these youngsters, with 75% of the eighth graders and 90% of the tenth graders saying they could get it fairly easily or very easily.

- By contrast, the illicit drugs are seen as accessible by far fewer of the younger students. Even so, ***marijuana*** is described as fairly easy or very easy to get by half (52%) of the eighth graders, followed by ***amphetamines*** (33%), ***crack*** (29%), ***cocaine powder*** (28%), ***barbiturates*** (27%), ***steroids*** (24%), and ***LSD*** (24%).

- When we compare eighth, tenth, and twelfth grades, we find that perceived availability rises sharply with grade level. For example, 52% of eighth graders say ***marijuana*** would be fairly easy or very easy to get, 78% of tenth graders, and 89% of the twelfth graders. In fact, for the other drugs included in the question, the proportion of students saying they are available to them nearly doubles between eighth grade and twelfth grade. These differences are probably attributable to the overall differences in prevalence rates across these grade levels. Children in lower grades are considerably less likely to have friends who use, and thus, less likely to have access through those friends. The differences between age groups may also reflect less willingness and/or less motivation on the part of those who deal drugs to establish contact with younger children.

- ***Marijuana*** appears to be universally available to high school seniors; some 89% report that they think it would be "very easy" or "fairly easy" for them to get—more than double the number who report ever having used it (42%).

- After marijuana, twelfth grade students indicate that ***amphetamines*** are among the easiest drugs to obtain (63%).

- More than half of the seniors (54%) see ***LSD*** as readily available, while just under half see the following drugs as readily available: ***cocaine powder*** (44%), ***steroids*** (46%), ***barbiturates*** (42%), and ***crack*** (42%).

- ***Opiates other than heroin***, ***tranquilizers***, ***psychedelics other than LSD***, ***heroin***, and ***PCP*** are reported as available by substantial minorities of seniors (40%, 38%, 36%, 35%, and 31%, respectively). See Table 30 for the full list of drugs included in the questions for twelfth graders; a few of these were not asked of the younger students.

- Even drugs with lower usage rates, such as ***ice***, ***ecstasy***, and the ***nitrite inhalants***, are seen as available by more than a quarter of the seniors.

TABLE 30

Long-Term Trends in Perceived Availability of Drugs, Twelfth Graders

Q. *How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?*	Percent saying "fairly easy" or "very easy" to get[a]																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Marijuana	87.8	87.4	87.9	87.8	90.1	89.0	89.2	88.5	86.2	84.6	85.5	85.2	84.8	85.0	84.3	84.4	83.3	82.7	83.0	85.5	88.5	+3.0ss
Amyl & Butyl Nitrites	—	—	—	—	—	—	—	—	—	—	—	—	23.9	25.9	26.8	24.4	22.7	25.9	25.9	26.7	26.0	-0.7
LSD	46.2	37.4	34.5	32.2	34.2	35.3	35.0	34.2	30.9	30.6	30.5	28.5	31.4	33.3	38.3	40.7	39.5	44.5	49.2	50.8	53.8	+3.0
Some other psychedelic	47.8	35.7	33.8	33.8	34.6	35.0	32.7	30.6	26.6	26.6	26.1	24.9	25.0	26.2	28.2	28.3	28.0	29.9	33.5	33.8	35.8	+2.0
PCP	—	—	—	—	—	—	—	—	—	—	—	—	22.8	24.9	28.9	27.7	27.6	31.7	31.7	31.4	31.0	-0.4
Cocaine	37.0	34.0	33.0	37.8	45.5	47.9	47.5	47.4	43.1	45.0	48.9	51.5	54.2	55.0	58.7	54.5	51.0	52.7	48.5	46.6	47.7	+1.1
Crack	—	—	—	—	—	—	—	—	—	—	—	—	41.1	42.1	47.0	42.4	39.9	43.5	43.6	40.5	41.9	+1.4
Cocaine powder	—	—	—	—	—	—	—	—	—	—	—	—	52.9	50.3	53.7	49.0	46.0	48.0	45.4	43.7	43.8	+0.1
MDMA (ecstasy)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21.7	22.0	22.1	24.2	28.1	31.2	34.2	+3.0
Heroin	24.2	18.4	17.9	16.4	18.9	21.2	19.2	20.8	19.3	19.9	21.0	22.0	23.7	28.0	31.4	31.9	30.6	34.9	33.7	34.1	35.1	+1.0
Some other narcotic (including methadone)	34.5	26.9	27.8	26.1	28.7	29.4	29.6	30.4	30.0	32.1	33.1	32.2	33.0	35.8	38.3	38.1	34.6	37.1	37.5	38.0	39.8	+1.8
Amphetamines	67.8	61.8	58.1	58.5	59.9	61.3	69.5	70.8	68.5	68.2	66.4	64.3	64.5	63.9	64.3	59.7	57.3	58.8	61.5	62.0	62.8	+0.8
Crystal meth. (ice)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.1	24.3	26.0	26.6	25.6	27.0	+1.4
Barbiturates	60.0	54.4	52.4	50.6	49.8	49.1	54.9	55.2	52.5	51.9	51.3	48.3	48.2	47.8	48.4	45.9	42.4	44.0	44.5	43.3	42.3	-1.0
Tranquilizers	71.8	65.5	64.9	64.3	61.4	59.1	60.8	58.9	55.3	54.5	54.7	51.2	48.6	49.1	45.3	44.7	40.8	40.9	41.1	39.2	37.8	-1.4
Steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46.7	46.8	44.8	42.9	45.5	+2.6
Approx. N =	*2627*	*2865*	*3065*	*3598*	*3172*	*3240*	*3578*	*3602*	*3385*	*3269*	*3274*	*3077*	*3271*	*3231*	*2806*	*2549*	*2476*	*2586*	*2670*	*2526*	*2552*	

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] **Answer alternatives were:** (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, and (5) Very easy.

- We have found in the past that two-thirds or more of the twelfth graders who had actually used any of the illicit drugs in the past year felt that drug would be easy for them to get.

Trends in Perceived Availability for Twelfth Graders

Trend data on availability for seniors are presented in Figures 36a through 36c and in Table 30.

- For the first time since the study began in 1975, ***marijuana*** showed a small but statistically significant decline in perceived availability between 1982 and 1984 (down 4 percentage points to 85%), undoubtedly due to the reduced proportion of seniors who had friends who used. There was little further change until 1994, when a significant increase in perceived availability occurred, corresponding to a sharp increase in proportion of friends using. Both variables increased again in 1995.

- ***Amphetamine*** availability jumped 11 percentage points between 1979 and 1982 (to 71%), but dropped by 14 percentage points between 1982 and 1991 (to 57%). Since 1991 there has once again been a steady increase in availability, reaching 63% in 1995.

- The perceived availability of ***barbiturates*** also jumped about 6% between 1980 and 1982, but dropped back by 13 points between 1982 and 1991 (where it remains) reflecting its long- term drop in the number of users.

- Between 1977 and 1980—the period of increased overall ***cocaine*** use—there was a substantial increase (15 percentage points) in the perceived availability of cocaine (see Figures 36a and Table 30). Availability then leveled, dropped some in 1983 and 1984, before rising significantly (by 4%) in 1985, again as use rose. Perceived availability rose another 2.6% in 1986. After 1986 actual use of cocaine dropped sharply, but reported availability continued to rise through 1989. Because there was no drop in perceived availability between 1986 and 1989 we discount reduction in supply as an explanation for the significant decline in use observed in those years. Between 1989 and 1994 there was a significant 12-percentage-point decrease in perceived availability—perhaps reflecting the impact of the greatly reduced proportion of seniors who have friends who use. The percentage reporting friends who use dropped by 11 points during the same interval. In 1995, ***cocaine*** availability increased slightly, though not by a statistically significant amount.

- ***Crack*** availability has only been asked since 1987; it has fluctuated between 40% and 47%, with no clear trending (Figure 36a).

FIGURE 36a

Trends in Perceived Availability of Drugs for Twelfth Graders

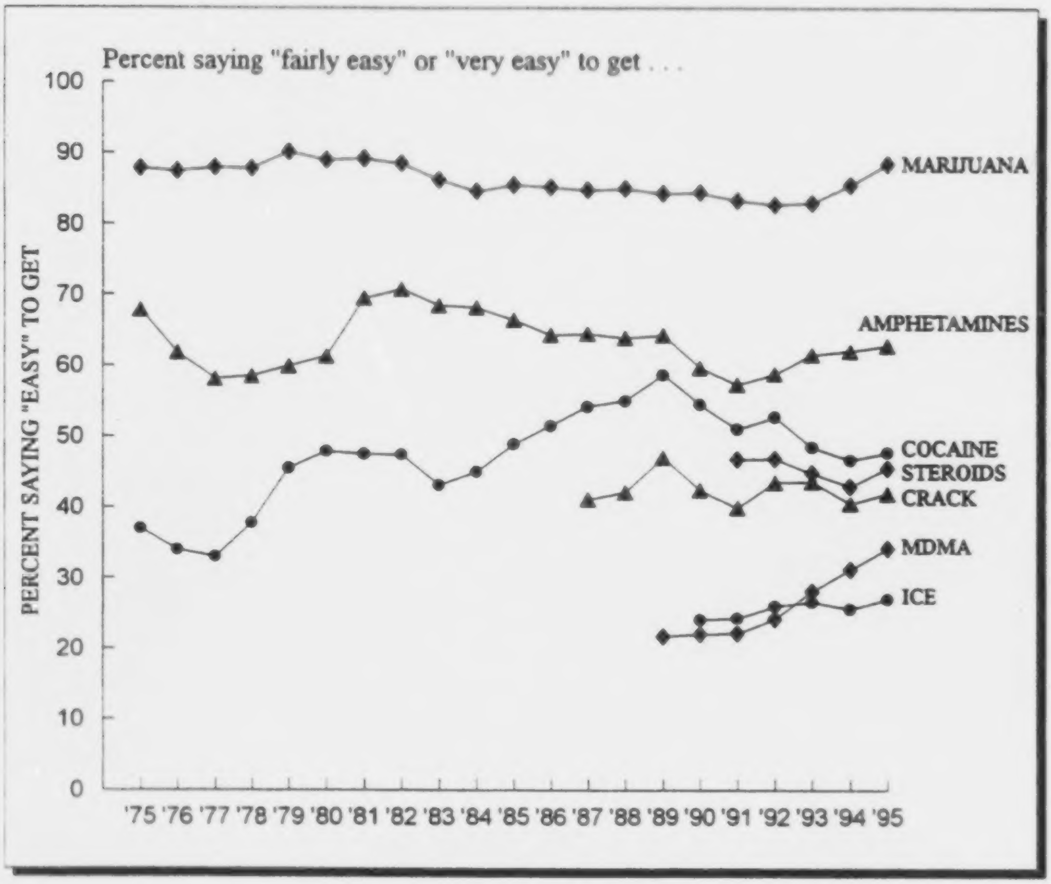

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FIGURE 36b

Trends in Perceived Availability of Drugs for Twelfth Graders

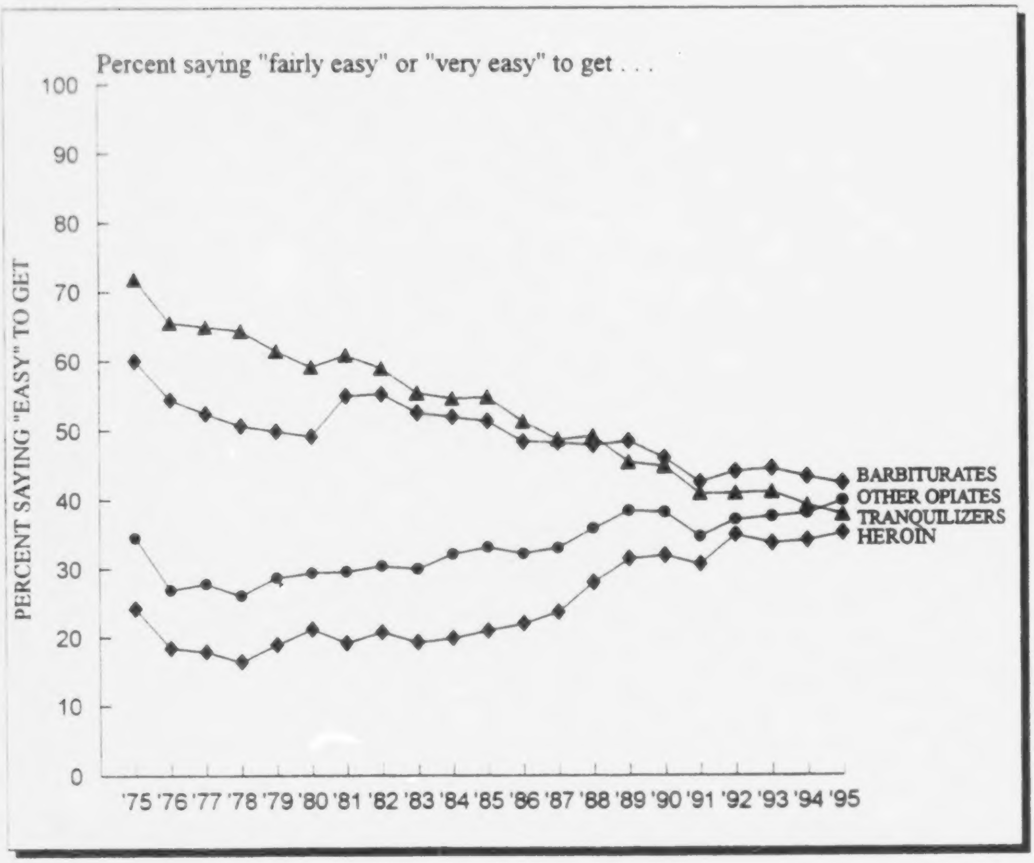
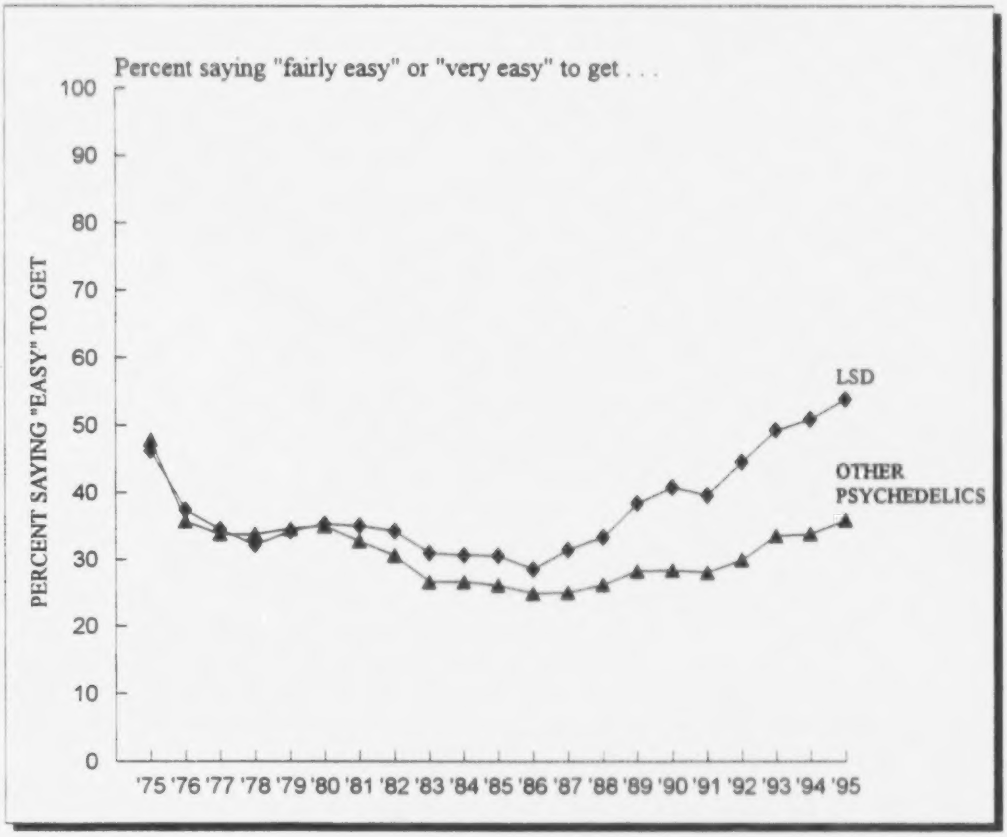


FIGURE 36c

Trends in Perceived Availability of Drugs for Twelfth Graders



- The use of ***tranquilizers*** declined fairly steadily between 1977 and 1992, and perceived availability declined by a smaller proportion over the same period. From 1992 to 1993 availability stayed level at 41% before dropping to 38% by 1995.

- The perceived availability of ***LSD*** dropped sharply between 1975 and 1986, from 46% to 29% saying the drug would be "fairly easy" or "very easy" to get. Then availability rose from 29% in 1986 to 41% by 1990. In 1992 availability increased sharply to 45%, and it has risen steadily since, to 54% in 1995. (See Table 30.)

- The availability of ***other psychedelics*** dropped sharply between 1975 and 1978, stayed steady through 1981, declined again through 1986, and then gradually increased through 1995, when 36% of the seniors claimed they would be fairly easy or very easy to get.

- Between 1979 and 1987, self-reported use of ***PCP*** dropped substantially, before stabilizing at a very low level. However, availability rose from 23% in 1987 (when it was first measured) to 32% in 1992, before stabilizing.

- For the decade between 1976 and 1986 there was little change in the perceived availability of ***heroin*** (Figure 36b). A significant increase occurred between 1986 (when 22% said ***heroin*** would be fairly easy to get) and 1989 (when 31% thought so), followed by little change through 1991. In 1992, perceived availability again increased significantly (to 35%). It is still perceived as being fairly easy or very easy to get by fully one-third (35%) of the twelfth graders. The 1992 through 1995 figures are the highest attained since the study began. Despite these changes in availability, however, annual usage rates among seniors have remained stable at around 0.5%, between 1979 and 1994. It was not until 1995 that we saw a significant increase in annual ***heroin*** use among twelfth graders.

- ***Other opiates*** have shown a very slight, gradual, upward shift in availability, from 29% in 1979 to 38% in 1989, with little change since, although in 1995 there was an increase of 1.8% (which was not statistically significant).

Trends in Perceived Availability for Eighth and Tenth Graders

- Because information on drug availability was first gathered from eighth and tenth graders in 1992, we can characterize change only since then. Nevertheless, eighth and tenth graders are reporting a rise in the availability of several of the illicit drugs.

- The proportion of eighth graders seeing ***marijuana*** as easy to get has risen sharply from 42% in 1992 to 52% in 1995, while among tenth graders there has been an even greater increase (from 65% to 78%) over the same interval. Twelfth graders showed the smallest increase (from 83% to 89%) because they started from such a high level of availability.

- ***LSD*** availability has been rising since 1992 among tenth and twelfth graders (from 34% to 40% in 1995, and from 45% to 54% in 1995, respectively). But availability did not begin to rise among eighth graders until 1995 (from 22% in 1994 to 24% in 1995).

- ***Crack*** became more available to eighth graders between 1993 (26%) and 1995 (29%), but not to tenth or twelfth graders.

- ***Cocaine powder*** became less available to twelfth graders between 1992 (48%) and 1995 (44%), yet may have become more available to eighth graders between 1993 (26%) and 1995 (28%).

- For ***heroin*** the only change in availability observed since 1992 is a slight, but significant, increase among eighth graders in 1995 (to 21% from 19% in 1994).

- There has been a modest but steady increase in the availability of ***amphetamines*** since 1992 in the upper two grade levels. For eighth graders, the increase in availability did not show up until 1995.

- For most of the other drugs shown in Table 29 there has been rather little change in availability since 1992. This includes ***ice***, ***barbiturates***, ***steroids, alcohol***, and ***cigarettes***.

The Importance of Supply Reduction vs. Demand Reduction

- Overall, it is important to note that ***supply reduction*** does not appear to have played a major role in perhaps the two most important downturns in drug use which have occurred to date, namely, those for ***marijuana*** and ***cocaine***. (See Figures 24 and 25.) In the case of cocaine, perceived availability actually rose during much of the period of downturn in use. These data are corroborated by data from the Drug Enforcement Administration on trends in the price and purity of cocaine on the streets. In the case of marijuana, availability remained almost universal to this age group over the last 18 years, while use dropped substantially until 1993. Similarly, ***amphetamine*** use declined appreciably since 1981 with only a modest corresponding change in perceived availability. Finally, until 1995 ***heroin*** use has not risen among seniors even though availability increased substantially.

- What *did change* dramatically are young peoples' beliefs about the dangers of using ***marijuana*** and ***cocaine***; and, as we have been saying for some years, we believe these changes led to a decrease in use directly through their impact on the young peoples' demand for these directly through their impact on the young peoples' demand for these drugs, and indirectly through their impact on personal disapproval and subsequently, peer norms. Because the perceived risk of ***amphetamine*** use was not changing much when amphetamine use was declining substantially (1981-1986), other factors must help to account for the decline in demand for that class of drugs—quite conceivably a displacement to cocaine. Because the three classes of drugs (marijuana, cocaine and amphetamines) have shown *different* patterns of change, it is highly unlikely that a general factor (e.g., a general shift against drug use) can explain their various trends.

The recent turnaround in ***marijuana*** use among all grades surveyed adds more compelling evidence to this interpretation. It was neither preceded, nor accompanied, by any increase in perceived availability, but it was *both* preceded, and accompanied, by a decrease in perceived risk. Peer disapproval dropped sharply in 1993, 1994, and 1995, *after* perceived risk began to change, consistent with our interpretation that perceived risk can be an important determinant of disapproval.

Chapter 10

OTHER FINDINGS FROM THE STUDY

Each year this section presents additional recent findings from the Monitoring the Future study. The first two sections included here—on the use of nonprescription stimulants and daily marijuana use—represent original analyses and have not been reported elsewhere.

THE USE OF NONPRESCRIPTION STIMULANTS

As is discussed in other chapters of this report, between 1979 and 1981 we observed a substantial increase in reported stimulant use by high school students. We had reason to believe that a fair part of that increase was attributable to nonprescription stimulants of two general types—"look-alike" drugs (pseudo-amphetamines, usually sold by mail order, which look like, and often have names that sound like, real amphetamines) and over-the-counter stimulants (primarily diet pills and stay-awake pills). These drugs usually contain caffeine, ephedrine, and/or phenylpropanolamine as their active ingredients.

Prompted by this development, we introduced new questions on some questionnaire forms, beginning in 1982, in order to assess more accurately the use of amphetamines as well as to assess the use of the "look-alikes," diet pills, and stay-awake pills of the nonprescription variety. For example, on one of the five twelfth grade questionnaire forms in 1982-1988, and on one of six questionnaire forms beginning in 1989, respondents were asked to indicate on how many occasions (if any) they had taken nonprescription diet pills such as Dietac™, Dexatrim™, and Prolamine™ (a) in their lifetime, (b) in the prior twelve months, and (c) in the prior thirty days. (These correspond to the standard usage questions asked for all drugs.) Similar questions were asked about nonprescription stay-awake pills (such as No-Doz™, Vivarin™, Wake™, and Caffedrine™) and the "look-alike" stimulants. (The latter were described at some length in the actual question.)

On three of the five questionnaire forms in 1982 and 1983 (and in all questionnaire forms thereafter) respondents were also asked about their use of prescription amphetamines, with very explicit instructions to exclude the use of over-the-counter and "look-alike" drugs.

Prevalence of Use in 1995 Among Seniors

- Tables 31a, 31b, and 31c give the prevalence levels for these various classes of stimulants. As can be seen, a substantial proportion of twelfth grade students (16%) have used over-the-counter ***diet pills*** and 4% have used them in just the past month. Some 0.3% of seniors are using them daily.

- Based on the data presented earlier in this report, we know that very similar proportions are using actual ***amphetamines***, 15% lifetime, 4% monthly, and 0.3% daily prevalence.

- Slightly fewer students knowingly use the ***look-alikes*** than use diet pills or amphetamines (adjusted): 12% lifetime, 3% monthly, and 0.3%

TABLE 31a

Non-Prescription Diet Pills: Trends in Twelfth Graders' Lifetime, Annual, and Thirty-Day Prevalence of Use, by Sex[a]

(Entries are percentages)

Prevalence	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Lifetime															
Total	29.6	31.4	29.7	28.7	26.6	25.5	21.5	19.9	17.7	17.2	15.0	14.8	14.9	15.6	+0.7
Males	16.5	17.4	14.8	14.8	13.1	12.4	9.4	9.1	7.8	5.9	6.4	5.6	4.5	6.1	+1.6
Females	42.2	44.8	43.1	41.5	39.7	38.3	32.6	30.2	28.3	28.1	23.2	23.3	23.7	23.9	+0.2
Annual															
Total	20.5	20.5	18.8	16.9	15.3	13.9	12.2	10.9	10.4	8.8	8.4	8.0	9.3	9.8	+0.5
Males	10.7	10.6	9.2	9.0	6.9	6.4	4.9	4.3	4.3	3.0	4.3	3.2	2.5	3.5	+1.0
Females	29.5	30.0	27.5	24.4	23.2	21.1	18.8	17.2	16.7	14.2	12.2	12.3	14.9	15.1	+0.2
Thirty-Day															
Total	9.8	9.5	9.9	7.3	6.5	5.8	5.1	4.8	4.3	3.7	4.0	3.8	4.2	3.8	-0.4
Males	5.0	4.0	4.8	3.7	3.2	2.7	1.8	2.3	1.9	1.4	1.9	1.9	1.3	1.1	-0.2
Females	14.0	13.7	14.2	10.7	9.6	8.9	8.3	7.0	6.7	5.5	5.8	4.9	6.4	5.7	-0.7

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss= .01, sss = .001.
SOURCE: The Monitoring the Future Study, the University of Michigan.

[a]Data based on one form. Total N for 1982-89 is approximately 3,300. For 1990-95, the total N is approximately 2,600.

TABLE 31b

Stay-Awake Pills: Trends in Twelfth Graders' Lifetime, Annual, and Thirty-Day Prevalence, by Sex[a]

(Entries are percentages)

Prevalence	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Lifetime															
Total	19.1	20.4	22.7	26.3	31.5	37.4	37.4	36.3	37.0	37.0	35.6	30.5	31.3	31.2	-0.1
Males	20.2	22.3	23.2	28.0	32.0	34.8	38.0	37.7	35.3	36.0	34.4	30.4	30.2	29.0	-1.2
Females	16.9	18.2	21.7	24.9	31.3	39.4	36.7	35.1	39.2	37.9	37.3	30.1	32.2	32.3	+0.1
Annual															
Total	11.8	12.3	13.9	18.2	22.2	25.2	26.4	23.0	23.4	22.2	20.4	19.1	20.7	20.3	-0.4
Males	12.8	13.8	15.4	19.7	22.3	25.5	27.6	24.8	22.3	22.3	20.9	19.7	20.3	19.7	-0.6
Females	10.0	10.5	12.5	17.0	22.2	25.0	25.2	21.7	24.5	22.0	20.2	17.6	20.4	20.1	-0.3
Thirty-Day															
Total	5.5	5.3	5.8	7.2	9.6	9.2	9.8	8.5	7.3	6.8	7.2	7.0	6.3	7.3	+1.0
Males	6.0	5.5	6.2	7.7	9.5	9.3	11.0	10.0	7.1	7.6	7.8	7.9	5.9	6.3	+0.4
Females	4.7	4.5	5.5	6.7	9.3	9.1	8.6	6.9	7.3	5.5	6.5	5.5	5.8	7.1	+1.3

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
SOURCE: The Monitoring the Future Study, the Univesity of Michigan.

[a] Data based on one form. Total N for 1982-89 is approximately 3,300. For 1990-95, the total N is approximately 2,600.

TABLE 31c

Look-Alikes: Trends in Twelfth Graders' Lifetime, Annual, and Thirty-Day Prevalence of Use, by Sex[a]

(Entries are percentages)

Prevalence	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Lifetime															
Total	15.1	14.8	15.3	14.2	12.7	11.9	11.7	10.5	10.7	8.9	10.1	10.5	10.3	11.6	+1.3
Males	13.6	14.2	14.1	14.1	12.3	10.9	10.4	10.1	11.6	8.3	11.0	10.1	9.0	10.8	+1.8
Females	15.1	14.4	15.2	13.8	12.6	12.3	12.1	10.2	9.9	8.8	9.3	10.4	11.2	10.6	-0.6
Annual															
Total	10.8	9.4	9.7	8.2	6.9	6.3	5.7	5.6	5.6	5.2	5.4	6.2	6.0	6.8	+0.8
Males	9.5	9.2	9.7	8.3	6.5	6.4	4.2	6.1	6.6	4.9	6.2	6.4	5.9	7.0	+1.1
Females	10.7	8.6	8.5	7.8	6.7	6.0	6.3	5.0	4.6	4.7	4.5	5.4	5.7	5.4	-0.3
Thirty-Day															
Total	5.6	5.2	4.4	3.6	3.4	2.7	2.7	2.4	2.3	2.1	2.4	2.7	2.4	3.0	+0.6
Males	4.0	4.5	4.5	3.8	3.4	2.4	1.7	2.3	2.6	2.0	2.5	2.0	2.5	3.0	+0.5
Females	5.2	5.4	3.8	3.1	3.0	2.7	3.0	2.2	1.8	1.8	2.2	2.9	2.0	2.1	+0.1

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Data based on one form. Total N for 1982-89 is approximately 3,300. For 1990-95, the total N is approximately 2,600.

daily prevalence. Of course, it is probable that some proportion of those who think they are getting real amphetamines have actually been sold look-alikes, which are far cheaper for drug dealers to purchase.

- Currently, ***stay-awake pills*** are the most widely used stimulant: 31% lifetime, 7% monthly, and 0.5% daily prevalence rates.

- In 1983 the newly revised question on amphetamine use yielded prevalence estimates which were about one-quarter to one-third lower than the original version of the question, indicating that indeed some distortion in the unadjusted estimates was occurring as a result of respondents including some nonprescription stimulant use. However, we believe that there should be little or no such distortion in recent years, primarily due to the improvement in the questions, but also due to the fact that there has been a considerable decline in the use of diet pills and look-alikes, as is discussed below.

Subgroup Differences

- Figure 37 shows the prevalence figures for these drug classes for ***males and females*** separately. It can be seen that the use of ***diet pills*** is dramatically higher among females than among males. In fact, the absolute prevalence levels for females are impressively high, 24% report some experience with them and 6%–or one in every seventeen females–report use in just the last month. For all the other types of stimulants the prevalence rates for both sexes are fairly close.

- A similar comparison for those planning four years of college (referred to here as the "college-bound") and those who are not, has shown some differences as well (data not shown). This year's results show only a very slight difference between these two groups in their use of ***stay-awake pills***; annual prevalence is 21% for noncollege-bound, 20% for college-bound. Use of ***diet pills*** is slightly higher for the noncollege-bound; annual prevalence is 12%, vs. 9% for the college-bound. Use of the ***look-alikes*** is also slightly higher among the noncollege-bound (8% vs. 6%).

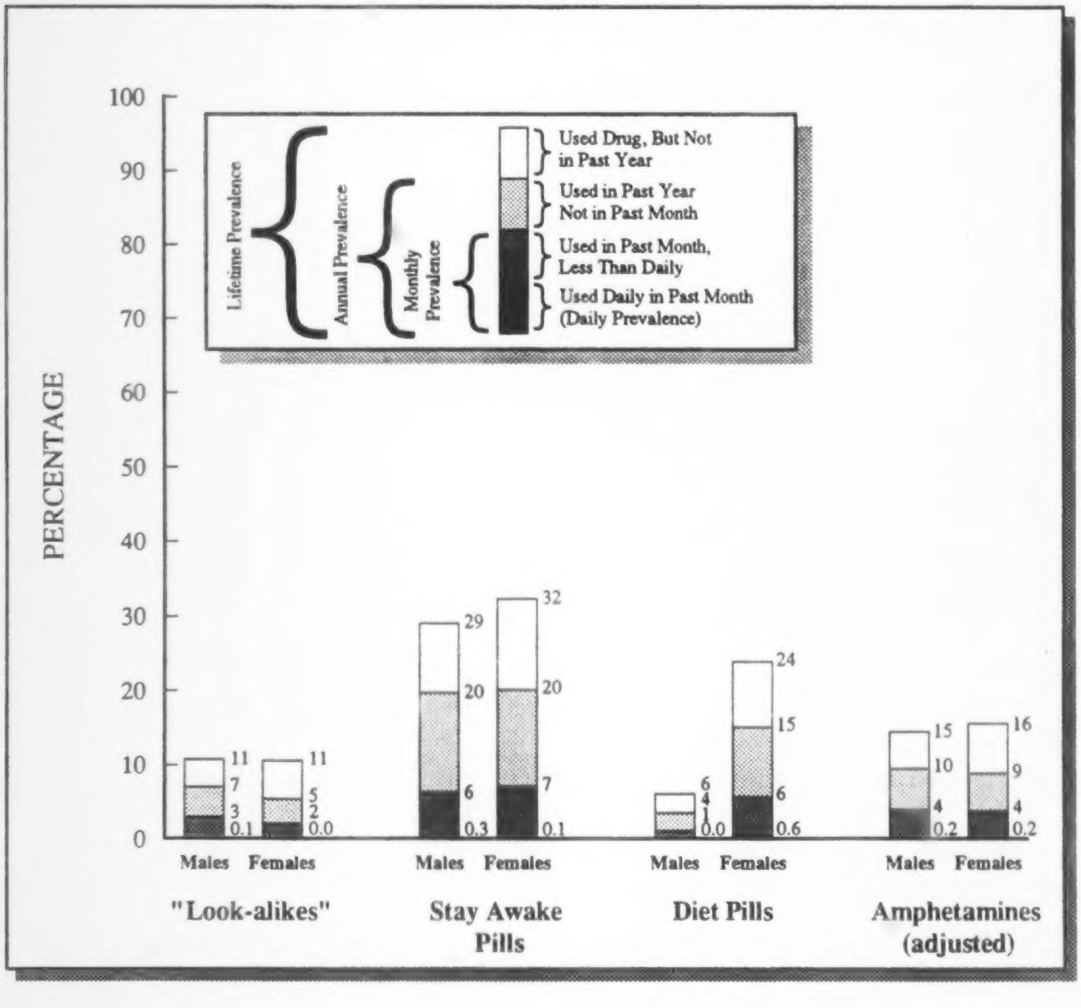
- With regard to ***regional differences***, in the use of diet pills is highest in the North Central (12% annual prevalence) and lowest in the West (6% annual prevalence). For the "look-alikes" and stay-awake pills, the North Central region also has the highest rates, while the differences among the other regions are minor.

- With all three nonprescription stimulants, the differences by urbanicity are now fairly minor.

- The use of all of the nonprescription stimulants (i.e., ***diet pills***, ***stay-awake pills***, and "***look-alikes***") is substantially higher among those who have had experience with the use of illicit drugs than among

FIGURE 37

Prevalence and Recency of Use, by Sex
Amphetamines and Non-Prescription Stimulants
Twelfth Graders, 1995



those who have not, and highest among those who have become most involved with illicit drugs (see Table 32). For example, only 3% of those who have abstained from any illicit drug use report ever having used a ***look-alike*** stimulant, compared to 14% of those who report having used only marijuana and 28% of those who report having used some illicit drug other than marijuana (usually in addition to marijuana).

Trends in Use Among Seniors

- Because these questions were new in 1982, trends can be assessed directly only since then. However, it is worth noting that the 1982 figures for ***amphetamines adjusted*** (i.e., excluding nonprescription stimulants) were higher than the unadjusted figures for all years prior to 1980. (See Tables 11 through 14.) This suggests that there was indeed an increase in amphetamine use between 1979 and 1982–or at least an increase in what, to the best of the respondent's knowledge, were amphetamines. Not all of the increase was an artifact.

- During the 1980s there were increased legislative and law enforcement efforts to curb the manufacture and distribution of ***look-alike pills***. Perhaps as a result, the use of these pills decreased from 1982 to 1991; for example, annual prevalence went from 10.8% in 1982 to 5.2% in 1991. Most of the decline occurred among those who have had experience with illicit drugs other than marijuana–the group primarily involved in the use of "look-alikes". Since 1991 use has risen a bit (Table 31c).

- Use of ***diet pills*** decreased substantially between 1983 and 1993. Over that interval annual prevalence fell from 21% to 8%. Nearly all of this decline occurred among the group who had used illicit drugs other than marijuana. Since 1993 use has risen back to10% (Table 31a).

- The use of ***stay-awake pills*** increased significantly in the early to mid-1980s; annual prevalence increased from 12% in 1982 to 26% in 1988. Since then it dropped back somewhat, to 19% in 1993. (Both the increase and decrease occurred primarily among those who have had experience in the use of illicit drugs.) By 1995, use had risen slightly (to 20%), but not significantly (Table 31b).

- All subgroups (defined by sex, college plans, region of the country, and population size) showed similarly large increases from 1982 to 1988 in their use of ***stay-awake pills***. All subgroups decreased in annual prevalence between 1988 and 1992, though there has been rather little decrease in the North Central region. Since 1992 use has stabilized in virtually all subgroups except in the large cities, where there has been a slow but steady increase in use.

- Subgroup differences in trends for ***diet pills*** for the most part reflect the overall trends, with the exception that the already low rate of use

TABLE 32

Percentage of Twelfth Graders in Each Category of an Illicit Drug Use Index Who Have Tried Various Over-the-Counter Stimulants, 1995

(Entries are percentages)

	Lifetime Illicit Drug Use Groupings		
Their lifetime use of . . .	No Use	Used Marijuana Only	Used Other Illicit Drugs
Diet Pills	8.9[a]	11.5	33.3
Stay-Awake Pills	16.4	38.3	57.4
"Look-Alikes"	3.2	13.7	27.5
Approx. N =	*1,200*	*500*	*600*

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] This means that, of those who have never used an illicit drug, 8.9 percent have used a diet pill at least once.

among males has dropped slightly since 1992, while among females annual prevalence has risen some–from 12% in 1992 to 15% in 1995.

- Subgroup differences in trends in the ***look-alikes*** generally reflect the overall trends.

THE USE OF MARIJUANA ON A DAILY BASIS

In past reports in this series, we summarized a number of findings regarding daily marijuana users, including what kind of people they are, how use changes after high school for different subgroups, and what daily users see to be the negative consequences of their use.[43] In 1982 a special question segment was introduced into the study in one of the five twelfth grade questionnaire forms in order to secure more detailed measurement of individual patterns of daily use. (This question has been included in one of six forms since 1988.) More specifically, respondents were asked (a) whether at any time during their lives they had ever used marijuana on a daily or near-daily basis for at least a month and, if so, (b) how recently they had done that, (c) when they first had done it, and (d) how many total months they had smoked marijuana daily, cumulating over their whole lifetime. The results of our analyses of these questions follow.

Lifetime Prevalence of Daily Marijuana Use among Seniors

- ***Current daily marijuana use***, defined as use on twenty or more occasions in the past thirty days has fluctuated widely since the study began, as we know from the trend data presented earlier in this report. It rose from 6.0% among seniors in 1975 to 10.7% in 1978, declined to 1.9% by 1992, then began to increase again. By 1995, it had risen to 4.6%, the highest prevalence rate since 1986.

- Since 1982, we have found the ***lifetime prevalence of daily marijuana use for a month or more*** to be far higher than current daily marijuana use–e.g., at 12.1% or one in every eight seniors in 1995 vs. 4.6% for current daily use. In other words, the proportion who describe themselves as having been daily or near-daily users at some time in their lives is three to three or four times as high as the number who describe themselves as current daily users. (However, we believe it very likely that this ratio has changed dramatically over the life of the study as a result of the large secular trends in daily use. Therefore, it would be inaccurate to extrapolate to the class of 1978, for example, and deduce that their lifetime prevalence of daily use was three times their 10.7% current use figure that year. An investigation of data from a follow-up panel of the class of 1978 confirms this assertion.)

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[43] For the original reports see the following, which are available from the author: Johnston, L.D. (1981). Frequent marijuana use: Correlates, possible effects, and reasons for using and quitting. In R. DeSilva, R. Dupont, & G. Russell (Eds.), *Treating the marijuana dependent person*, New York: The American Council on Marijuana. Also see Johnston, L.D. (1982). A review and analysis of recent changes in marijuana use by American young people. In *Marijuana: The national impact on education*, New York: The American Council on Marijuana.

- Utilizing data collected in 1989 from follow-up panels from the earlier graduating classes of 1976 through 1988, we found that the lifetime prevalence of daily marijuana use for these graduates (ranging in age from about 19 to 31) was 20%. Approximately one-fourth of the older portion of that group–graduates from the classes of 1976 through 1979–indicated having been daily marijuana users for a month or more at some time in their lives.

Grade of First Daily Marijuana Use

- Of the 1995 seniors who reported being daily marijuana users at some time in their lives (i.e., 12.1% of the sample), nearly half (45% of all daily users, or 5.5% of all seniors) began that pattern of use *before* tenth grade. However, this high proportion of early starters in this class cohort may in part reflect the secular trends in active daily use. Active daily use reached its peak among seniors in 1978. When the 1995 graduating class was in kindergarten and elementary school, daily marijuana use among high school seniors was still relatively high. But by the time the class of 1995 reached their high school years, daily use had fallen to low levels, making further initiation of new use much less likely. We are confident that different graduating classes show different age-associated patterns of onset, depending on the secular trends. The percentages of all seniors who started daily marijuana use in each grade level is presented in Table 33.

Recency of Daily Marijuana Use by Seniors

- About four-fifths (82%) of those who report *ever* having been daily marijuana users (for at least a one-month interval) have used that frequently in the past year, while about one-sixth (17%) of them say they last used that frequently "about two years ago" or longer. One-third (34%) of all who had ever been daily users (or 4.1% of the entire sample) classified themselves as having used daily or almost daily in the past month (the period for which we define *current daily users*). Our operational definition of current daily users (20 or more uses in the last 30 days) yields 4.5% in 1995, very close to the 4.1% based on the respondents' own definition.

Duration of Daily Marijuana Use by Seniors

- It seems likely that the most serious long-term health consequences associated with marijuana use will be directly related to the duration of heavy use, and in the late 1970s there was considerable concern that a large population of chronic heavy users would evolve. Thus a question was introduced which asked the respondent to estimate the *cumulative* number of months he or she has smoked marijuana daily or nearly daily. While hardly an adequate measure of the many different

TABLE 33

Daily Marijuana Use: Responses to Selected Questions by Subgroups Twelfth Graders, 1995

	Total	Sex		4-Year College Plans		Region				Population Density		
		Male	Female	No	Yes	North East	North Central	South	West	Large MSA	Other MSA	Non-MSA
Q. Thinking back over your whole life, has there ever been a period when you used marijuana or hashish on a daily, or almost daily, basis for at least a month?												
No	87.9	87.1	92.1	85.8	90.8	87.2	86.4	88.8	89.4	86.1	88.7	88.8
Yes	12.1	12.9	7.9	14.2	9.2	12.8	13.6	11.2	10.6	13.9	11.3	11.2
Q. How old were you when you first smoked marijuana or hashish that frequently?												
Grade 6 or earlier	0.7	0.7	0.4	0.7	0.5	0.5	0.7	0.6	0.8	0.9	0.8	0.2
Grade 7 or 8	1.7	1.9	0.9	2.2	1.3	1.8	2.2	1.5	1.4	2.0	1.5	1.8
Grade 9 (Freshman)	3.1	3.2	2.1	3.8	2.4	4.3	3.3	2.4	2.8	3.1	3.2	2.8
Grade 10 (Sophomore)	3.3	3.6	1.8	4.0	2.2	3.9	3.6	2.9	2.5	3.2	3.4	3.1
Grade 11 (Junior)	2.6	2.9	2.0	3.2	2.0	1.8	3.1	3.0	2.0	3.4	1.7	3.2
Grade 12 (Senior)	0.8	0.7	0.7	0.2	0.9	0.4	0.7	0.8	1.2	1.2	0.8	0.1
Never used daily	87.9	87.1	92.1	85.8	90.8	87.2	86.4	88.8	89.4	86.1	88.7	88.8
Q. How recently did you use marijuana or hashish on a daily, or almost daily, basis for at least a month?												
During the past month	4.1	4.8	2.0	5.4	2.7	3.8	5.0	4.1	3.4	4.2	4.0	4.3
2 months ago	1.0	1.0	0.5	1.3	0.8	1.2	1.2	0.6	1.4	1.2	0.7	1.4
3 to 9 months ago	3.1	3.1	2.3	2.2	2.8	3.5	3.3	3.2	2.4	4.1	2.6	2.7
About 1 year ago	1.7	1.9	1.4	2.9	1.3	1.8	1.4	1.9	1.5	2.2	1.6	1.3
About 2 years ago	1.1	0.9	1.0	1.0	0.9	1.0	1.4	0.9	1.1	1.1	1.4	0.5
3 or more years ago	1.0	1.1	0.7	1.4	0.7	1.6	1.4	0.5	0.8	1.0	1.0	1.0
Never used daily	87.9	87.1	92.1	85.8	90.8	87.2	86.4	88.8	89.4	86.1	88.7	88.8
Q. Over your whole lifetime, during how many months have you used marijuana or hashish on a daily or near-daily basis?												
Less than 3 months	3.1	3.0	2.8	3.4	3.0	3.0	3.0	3.6	2.5	4.6	2.3	2.9
3 to 9 months	3.1	3.6	2.1	2.7	3.0	1.8	4.7	2.6	3.0	3.0	3.3	2.9
About 1 year	1.3	1.0	1.4	1.9	0.8	1.4	1.0	1.4	1.4	1.7	1.5	0.4
About 1 and 1/2 years	0.9	1.2	0.5	1.5	0.7	1.1	1.4	0.6	0.9	1.3	0.9	0.7
About 2 years	1.6	2.1	0.6	2.8	0.7	1.6	1.1	1.9	1.6	1.6	1.5	1.8
About 3 to 5 years	1.5	1.6	0.4	1.6	0.7	3.1	2.2	0.6	0.5	0.8	1.6	2.1
6 or more years	0.5	0.4	0.1	0.2	0.2	0.7	0.2	0.4	0.8	1.0	0.1	0.4
Never used daily	87.9	87.1	92.1	85.8	90.8	87.2	86.4	88.8	89.4	86.1	88.7	88.8
N =	*2544*	*1143*	*1244*	*489*	*1795*	*451*	*708*	*895*	*490*	*737*	*1136*	*671*

NOTE: Entries are percentages that sum vertically to 100 percent.
SOURCE: The Monitoring the Future Study, the University of Michigan.

possible cross-time patterns of use—a number of which may eventually prove to be important to distinguish—it does provide a gross measure of the total length of exposure to heavy use.

- Table 33 gives the distribution of answers to this question. It shows that of the 12.1% of the 1995 seniors with any daily marijuana use experience, roughly two-thirds (62%) reported that their period(s) of daily use totalled "about one year" or less. One-quarter (26%) used less than three months cumulatively. Nearly one-third (30%, or 3.6% of *all* seniors) used marijuana daily "about two years" or more cumulatively.

Subgroup Differences

- There is now a fair ***sex difference*** in the proportion having ever been a daily user—12.9% for males and 7.9% for females; and the cumulative duration of daily use is somewhat longer for the males.

- Whether or not the student has ***college plans*** is strongly related to lifetime prevalence of daily marijuana use, as well as to current prevalence. Of those planning four years of college, 9.2% had used daily compared with 14.2% of those without such plans. And the college-bound users show a distinctly shorter cumulative duration of use, with a lower proportion of them using daily during the past month. Among those in each group who did use daily, the age-at-onset pattern is younger for the noncollege-bound (Table 33).

- At present there are no substantial ***regional differences*** in lifetime prevalence of daily marijuana use.

- The differences in lifetime daily use associated with ***urbanicity*** are modest (as is true for current daily use). Lifetime prevalence of daily marijuana use is 13.9% in the large cities, 11.3% in the smaller cities, and 11.2% in the nonurban areas. Current daily use is 5.3% in the large cities, 4.5% in the smaller cities, and 3.9% in the nonurban areas.

Trends in Use of Marijuana on a Daily Basis

- Table 34a presents trend data on the lifetime prevalence of daily use for a month or more. It shows a decline since 1982 when this measure was first used, through 1992–from 21% to 8%. By 1995 it had risen to 12.1%.

- Between 1982 and 1992, the decline in ***lifetime daily marijuana use*** was slightly stronger among males (20% to 8%) than among females (from 18% to 8%); and the absolute drop was larger in the noncollege-bound group (23% to 11%) than among the college-bound (14% to 6%), although the proportional drop was not. In the

TABLE 34a

Trends in Daily Use of Marijuana in Lifetime by Subgroups, Twelfth Graders[a]

	Percent ever using daily for at least a month														
	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
All seniors	20.5	16.8	16.3	15.6	14.9	14.7	12.8	11.5	10.0	9.0	8.4	9.6	11.3	12.1	+0.8
Sex:															
Male	20.1	18.1	17.2	17.7	16.6	16.2	14.8	12.7	10.6	10.5	8.3	10.7	13.3	12.9	-0.4
Female	18.0	13.5	12.9	12.0	11.6	12.2	9.6	9.7	7.9	6.4	7.5	7.2	8.5	7.9	-0.6
College Plans:															
None or under 4 yrs	22.5	20.3	18.9	19.6	17.2	18.0	14.5	15.3	12.8	11.5	11.2	11.6	16.1	14.2	-1.9
Complete 4 yrs	13.8	10.5	10.7	10.6	11.0	11.1	9.8	9.1	7.4	6.5	5.9	7.7	8.6	9.2	+0.6
Region:															
Northeast	25.1	20.4	24.1	20.9	21.5	17.0	13.1	14.6	10.4	10.3	8.7	12.0	12.2	12.8	+0.6
North Central	21.1	15.9	12.8	16.3	11.3	12.7	10.3	13.4	10.8	8.4	8.0	9.3	11.0	13.6	+2.6
South	15.7	12.7	14.0	8.9	11.3	11.9	10.9	8.1	8.7	7.4	5.9	8.3	11.8	11.2	-0.6
West	20.8	21.4	17.6	18.5	18.3	19.7	19.0	12.3	11.0	11.3	13.4	10.4	10.2	10.6	+0.4
Population Density:															
Large MSA	23.8	20.0	19.4	18.1	17.0	16.7	14.0	10.6	8.3	7.2	8.4	8.6	10.3	13.9	+3.6
Other MSA	20.3	18.2	16.6	16.0	14.9	15.0	14.9	12.4	11.7	11.1	8.9	10.2	13.6	11.3	-2.3
Non-MSA	17.9	12.6	13.2	12.8	13.2	12.2	7.6	10.4	8.2	7.1	7.6	9.6	8.4	11.2	+2.8

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Data based on one form. Total N for 1982-89 is approximately 3,300. For 1990-95, the total N is approximately 2,600.

turnaround which began in 1993, most of the increase appeared to occur among the males, who are now at 13%, and the noncollege-bound, who are now at 14%.

- Lifetime prevalence of daily marijuana use dropped in all four regions of the country between 1982 and 1992 for Northeast, North Central, and South, and between 1982 and 1990 in the West. The decline was greatest in the Northeast, which dropped from 25% in 1982 to 9% in 1992. The current daily use measure shows the recent turnaround occurring in all regions since 1991 or 1992.

- All three population density levels exhibited the long-term declines in lifetime daily use, and all have shown some increase in use over the past several years.

- Daily use prior to tenth grade declined from 13% in the class of 1982 to 5% in the class of 1993. (This corresponds to people who were ninth graders between 1979 to 1990.) The decline halted in 1994. Subgroup trends may be examined in Table 34b.

OTHER DATA ON CORRELATES AND TRENDS

Hundreds of correlates of drug use, without accompanying interpretation, may be found in the series of annual volumes from the study entitled *Monitoring the Future: Questionnaire Responses from the Nation's High School Seniors*.[44] For each year since 1975, a separate hardbound volume presents univariate and selected bivariate distributions on all questions contained in the study. A host of variables dealing explicitly with drugs–many of them not covered here–are contained in that series. Bivariate tables are provided for *all* questions each year distributed against an index of lifetime illicit drug involvement, making it possible to examine the relationship between hundreds of potential "risk factors" and drug use.

A special cross-time reference index is contained in each volume to facilitate locating the same question across different years. One can thus derive *trend* data on some 1500 to 2000 variables for the entire sample or for important subgroups (based on sex, race, region, college plans, and drug involvement).

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[44] This series is available from the Monitoring the Future Project, Institute for Social Research, The University of Michigan, Ann Arbor, Michigan 48109.

TABLE 34b

Trends in Daily Use of Marijuana Prior to Tenth Grade by Subgroups, Twelfth Graders[a]

	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
	Percent reporting first such use prior to tenth grade														
All seniors	13.1	11.1	10.9	8.8	8.5	8.9	7.8	7.6	6.7	6.4	5.6	5.2	5.5	5.5	0.0
Sex:															
Male	12.9	12.1	11.8	9.8	8.7	10.2	8.4	8.4	6.9	7.4	5.6	5.5	6.1	5.8	-0.3
Female	11.5	8.3	8.0	6.5	6.6	7.1	6.6	6.0	4.9	4.4	5.0	4.1	4.4	3.4	-1.0
College Plans:															
None or under 4 yrs	14.2	13.5	12.3	11.8	10.7	11.4	11.0	11.6	9.0	8.7	7.8	6.3	6.7	6.7	0.0
Complete 4 yrs	8.2	6.5	6.6	5.5	5.2	6.4	5.3	5.1	4.6	4.3	3.8	4.2	4.4	4.2	-0.2
Region:															
Northeast	17.3	11.9	17.2	12.9	10.3	10.3	9.0	10.7	6.5	8.2	4.8	6.3	5.2	6.6	+1.4
North Central	13.3	12.4	8.4	9.1	7.3	7.7	6.0	7.6	6.7	4.9	4.7	5.5	5.8	6.2	+0.4
South	9.3	8.3	8.5	5.0	6.4	7.4	6.3	5.4	6.2	5.1	4.4	4.3	6.6	4.5	-2.1
West	12.6	13.9	12.1	8.9	11.2	11.7	11.9	8.1	8.0	8.6	9.8	5.1	3.2	5.0	+1.8
Population Density:															
Large MSA	15.6	13.7	12.4	12.0	9.6	11.8	8.1	6.0	5.9	5.4	5.7	5.5	4.6	6.0	+1.4
Other MSA	12.5	12.0	11.5	8.3	8.4	8.8	9.6	8.1	8.1	7.7	5.8	5.3	6.9	5.5	-1.4
Non-MSA	11.7	8.2	8.5	6.6	7.6	6.4	4.3	7.6	4.3	5.3	5.3	4.8	4.2	4.8	+0.6

NOTE: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Data based on one form. Total N for 1982-89 is approximately 3,300. For 1990-95, the total N is approximately 2,600.

Appendix A

PREVALENCE AND TREND ESTIMATES ADJUSTED FOR ABSENTEES AND DROPOUTS

One question which has arisen over the years in regard to this study concerns the degree to which the prevalence and trend estimates derived from twelfth graders are an accurate reflection of the reality which pertains to all young people who would be in the same class or age cohort, including those who have dropped out of school by senior year. In 1985 we published an extensive chapter on this topic in a volume in the NIDA Research Monograph series.[45] We will attempt in this Appendix to summarize the main points relevant to this issue of sample coverage.

First, it should be noted that two segments of the entire class/age cohort are missing from the data collected each year from seniors: those who are still enrolled in school but who are absent the day of data collection (the "absentees") and those who will not graduate from high school (the dropouts). The absentees constitute virtually all of the nonrespondents shown in the response rate given in Table 2 in Chapter 3 of this volume (since refusal rates are negligible) or about 18% of all seniors (or 15% of the class/age cohort). Based on our review of available Census data, dropouts account for approximately 15% of the class/age cohort.

The methods we used to estimate the prevalence rates for these two missing segments are summarized briefly here. Then, the effects of adding in these two segments to the calculation of the overall prevalence rates for two drug classes are presented along with the impact on the trend estimates. Two illicit drugs have been chosen for illustrative purposes: marijuana, the most prevalent of the illicit drugs, and cocaine, one of the more dangerous and less prevalent drugs. Estimates for high school seniors are presented for both lifetime and 30-day prevalence for each drug.

CORRECTIONS FOR LOWER GRADE LEVELS

Before estimates of corrections for seniors are discussed, it should be noted that the twelfth grade represents the "worst case" of underestimations. Rates of both dropping out and absenteeism are lower for eighth and tenth grades than for twelfth grade. With respect to dropping out, only a very few members of an age cohort have ceased attending school by grade eight, when most are age 13 or 14. Most tenth graders are age 15 or 16, and Census data indicate that only a small proportion (less than 5%) would have dropped out by then.[46]

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[45] Johnston, L.D., & O'Malley, P.M. (1985). Issues of validity and population coverage in student surveys of drug use. In B.A. Rouse, N.J. Casual, & L.G. Richards (Eds.), *Self-report methods of estimating drug use: Meeting current challenges to validity* (NIDA Research Monograph No. 57 (ADM) 85-1402). Washington, DC: U.S. Government Printing Office.

[46] According to the *Statistical Abstract of the United States 1994*, in 1992 the proportion of the civilian non-institutionalized population of the United States enrolled in school is 99.4% among 7-13 year olds and 99.1% among 14-15 year olds. It drops to 94.1% for 16-17 year olds combined, but there is probably a considerable difference between age 16 and age 17. Eighth graders in the spring of the school year are mostly (and about equally) 13-14 years old; while tenth graders are mostly (and about equally) 15 and 16 years old. These data, then, would suggest that dropouts are no more than 0.8% of eighth graders and 4.0% of tenth graders. U.S. Department of Commerce. (1994). *Statistical Abstract of the United States 1994: The National*

Thus, any correction for the missing dropouts should be negligible at eighth grade, and quite small at tenth grade.

Regarding absentees, Table 2, presented earlier, shows that while absentees comprise 16% of the seniors who should be in school, they comprise only 13% of tenth graders and 11% of eighth graders. Thus, the eighth and tenth grade change in prevalence estimates which would result from corrections for this missing segment also would be considerably less than for twelfth graders.

In sum, the modest corrections which will result from the corrections for dropouts and absentees at the twelfth grade level set outside limits for what would be found at eighth and tenth grade; in fact, it is clear that the corrections would be considerably smaller at tenth grade and far smaller at eighth grade. Since the corrections described for twelfth graders turn out to be modest ones, we have not undertaken comparable corrections for eighth and tenth graders.

THE EFFECTS OF MISSING ABSENTEES

To be able to assess the effects of excluding absentees on the estimates of twelfth grade drug use, we included a question in the study which asks students how many days of school they had missed in the previous four weeks. Using this variable, we can place individuals into different strata as a function of how often they tend to be absent. For example, all students who had been absent 50% of the time could form one stratum. Assuming that absence on the day of the administration is a fairly random event, we can use the actual survey participants in this stratum to represent all students in their stratum, including the ones who happen to be absent that particular day. By giving them a double weight, they can be used to represent both themselves and the other 50% of their stratum who were absent that day. Those who say they were in school only one-third of the time would get a weight of three to represent themselves plus the two-thirds in their stratum who were not there, and so forth. Using this method, we found that absentees as a group have appreciably higher than average usage levels for all licit and illicit drugs. However, looking at 1983 data, we found that their omission did not depress any of the prevalence estimates in any of the drugs by more than 2.7 percentage points, because they represent such a small proportion of the total target sample. Considering that a substantial proportion of those who are absent likely are absent for reasons unrelated to drug use—such as illness and participation in extracurricular activities—it may be surprising to see even these differences. In any case, from the point of view of instruction policy or public perceptions, the small "corrections" would appear to be of little or no significance. (The correction in 1983 across all 13 drugs in lifetime prevalence averaged only 1.4 percentage points.) Further, such corrections should have virtually no effect on cross-time trend estimates unless the rate of absenteeism was changing appreciably; and we find no evidence in our data that it has. Put another way, the presence of a slight underestimate which is constant across time should not influence trend results. Should absentee rates start changing, then it might be argued that such corrections should be presented routinely.

United States 1994: The National Data Book. (114th Ed.) Washington, D.C.: Bureau of the Census. (p. 155)

THE EFFECTS OF MISSING DROPOUTS

Unfortunately, we cannot derive corrections from data gathered from seniors to impute directly the prevalence rates for dropouts, as we did for absentees, since we have no completely appropriate stratum from which we have sampled. We believe, based on our own previous research, as well as the work of others, that dropouts generally have prevalence rates for all classes of drugs substantially higher than the in-school students. In fact, the dropouts may be fairly similar to the absentees.

We have consistently estimated the proportion who fail to complete high school to be approximately 15%; Figure A-1 displays the completion rate for the years 1972 through 1995 based on Census data. As the figure indicates, completion rates (and the complement, dropout rates) have been quite constant over this interval for persons 20-24 years old[47] (Younger age brackets are more difficult to use because they include some young people who are still enrolled in high school.) Monitoring the Future probably covers some small proportion of the 15%, since the survey of seniors takes place a few months before graduation, and not everyone will graduate. On the other hand, perhaps 1% to 2% of the age group which Census shows as having a diploma get it through a General Equivalency Degree and thus would not be covered in Monitoring the Future. (Elliott and Voss reported this result for less than 2% of their sample in their follow-up study of 2617 ninth graders in California who were followed through their high school years.[48]) So these two factors probably cancel each other out. Thus, we use 15% as our estimate of the proportion of a class cohort not covered.

Extrapolating to dropouts from absentees. To estimate the drug usage prevalence rates for this group we have used two quite different approaches. The first was based on extrapolations from seniors participating in this study. Using this method we developed estimates under three different assumptions: that the difference between dropouts and the participating seniors in the study was equivalent to (a) the difference between absentees and the participating seniors, (b) one and one-half times that difference, and (c) twice that difference. The last assumption we would consider a rather extreme one.

The second general method involved using the best national data then available on drug use among dropouts–namely the National Household Surveys on Drug Abuse (NHSDA).[49] While these surveys have rather small samples of dropouts in the relevant age range in any given year, they should at least provide unbiased estimates for dropouts still in the household population.

Using the first assumption—that dropouts are just like absentees—we found that no prevalence rate was changed by more than 5% over the estimate based on 1983 seniors only,

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[47] U.S. Bureau of the Census (various years). *Current population reports, Series P-20*, various numbers. Washington, DC: U.S. Government Printing Office.

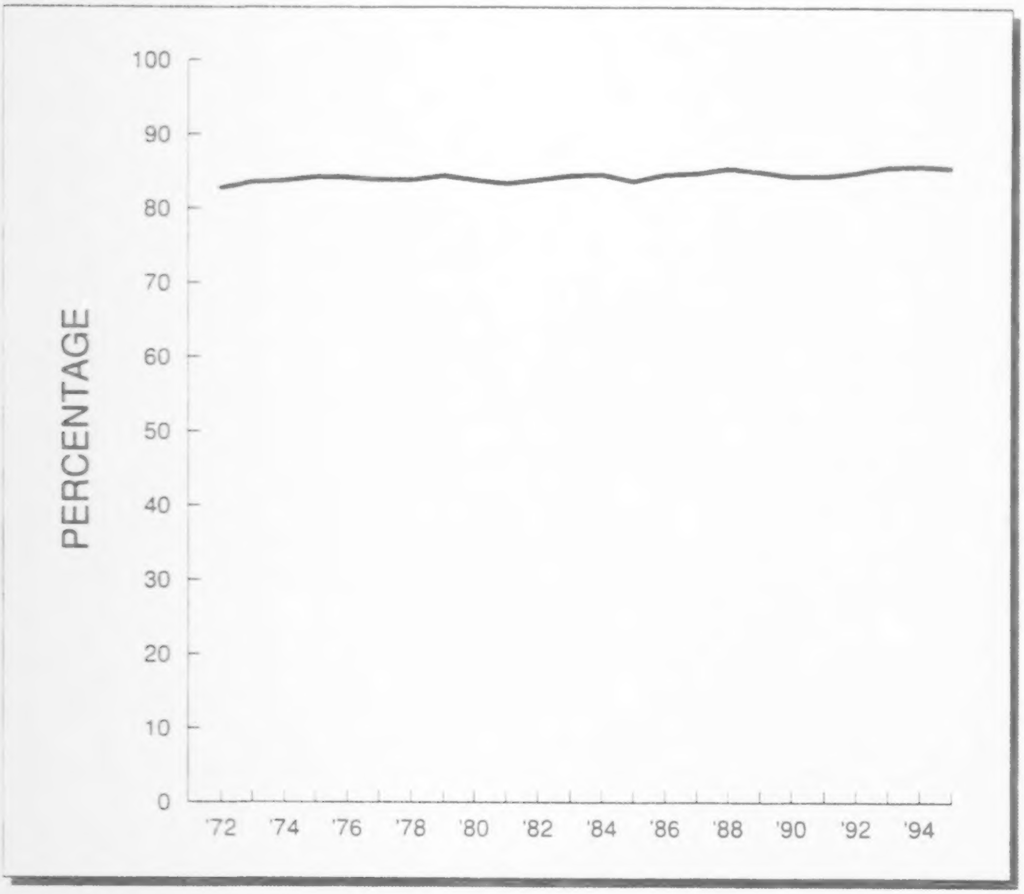
[48] Elliott, D., & Voss, H.L. (1974). *Delinquency and dropout*. Lexington, MA: D.C. Heath-Lexington Books.

[49] Fishburne, P.M., Abelson, H.I., & Cisin, I. (1980). *National survey on drug abuse: Main findings. 1979* (NIDA (ADM) 80-976). Washington, DC: U.S. Government Printing Office; Miller, J.D., et al., (1983). *National survey on drug abuse: Main findings. 1982* (NIDA (ADM) 83-1263). Washington, DC: U.S. Government Printing Office. See also Substance Abuse and Mental Health Services Adminstration. (1995). *National Household Survey on Drug Abuse: Main Findings 1992* (DHHS Publication No. (SMA) 94-3012). Rockville, MD: Substance Abuse and Mental Health Services Administration.

FIGURE A-1

High School Completion by Persons 20-24 Years Old, 1972-1995

U.S. Population



Source: U.S. Bureau of the Census. Current Populations Survey. published and unpublished data; and 1980 Census.

even with the simultaneous correction for both absentees and dropouts. (The method for calculating prevalence rates for the absentees is the one described in the previous section.) The largest correction in 1983 involved marijuana, with lifetime prevalence rising from just under 60% to 64%. Even under the most extreme assumption—which results in exceptionally high prevalence rates for dropouts on all drugs, for example 90% lifetime prevalence for marijuana—the overall correction in any of the prevalence figures for any drug remained less than 7.5%. Again, marijuana showed the biggest correction (7.5% in annual prevalence, raising it from 46% uncorrected to 54% with corrections for both absentees and dropouts). As we would have expected, the biggest *proportional* change occured for heroin, since it represents the most deviant end of the drug-using spectrum and thus usually would be most associated with truancy and dropping out.

Extrapolating from the household surveys. The second method of estimating drug use among dropouts was by comparing the household survey data on dropouts with the data from those remaining in school. We originally conducted secondary analyses of the archived data from the 1977 and 1979 National Household Surveys (NHSDA). (Analyses using more current NHSDA data are shown in the next section.) Analyses were restricted to the age range 17 to 19 years old, since about 95% of the Monitoring the Future seniors fall in this range. Of course, the number of cases is small. In the 1977 survey there were only 46 dropouts and 175 enrolled seniors in this age group. In the 1979 survey 92 dropouts and 266 seniors were included.

For marijuana, the estimated differences from the household survey data came out at a level which was at or below the *least* extreme assumption made in the previous method (where dropouts are assumed to have the same drug use levels as absentees). While comforting to the authors of the present report, we must admit that we believe these household samples underrepresented the more drug-prone dropouts to some degree. Thus we concluded that estimates closer to those made under the second assumption in the previous method may be closer to reality—that is, that dropouts are likely to deviate from participating seniors by one and one-half times the amount that absentees deviate from them.

We should note that there are a number of reasons for dropping out, many of which bear no relationship to drug use, including economic hardship in the family and certain learning disabilities and health problems. At the national level, the extreme groups such as those in jail or without a permanent place of residence are undoubtedly very small as a proportion of the total age groups and probably even as a proportion of all dropouts. Thus, regardless of their prevalence rates, they would be unable to move the prevalence estimates by a very large proportion except in the case of the most rare events–in particular, heroin use. We do believe that in the case of heroin use—particularly regular use—we are very likely unable to get a very accurate estimate even with the corrections used in this report. The same may be true for crack cocaine and PCP. For the remaining drugs, we conclude that our estimates based on participating seniors, though somewhat low, are not bad approximations for the age group as a whole.

Effects of omitting dropouts in trend estimates. Whether the omission of dropouts affects the estimates of trends in prevalence rates is a separate question, however, from the degree to which it affects absolute estimates at a given point in time. The relevant issues parallel those discussed earlier regarding the possible effects on trends of omitting the absentees. Most important is the question of whether the rate of dropping out has been changing in the country, since a substantial change would mean that seniors studied in different years would represent noncomparable segments of the whole class/age cohort. Fortunately for the purposes of this study, at least, the official government data provided in Figure A-1 indicate a very stable rate of dropping out since 1972.

Given that there appears to be no sound evidence of an appreciable change in the dropout rate, the only reason that trend data from seniors would deviate from trends for the entire class cohort (including dropouts) would be if the constant proportion who have been dropping out showed trends contrary to those observed among seniors; and even then, because of their small numbers, they would have to show dramatically different trends to be able to change the trend story very much for the age group as a whole. There has been no hypothesis offered for such a differential shift among dropouts which these authors, at least, find very convincing.

One hypothesis occasionally heard was that more youngsters were being expelled from school, or voluntarily leaving school, because of their drug use; and that this explained the downturn in the use of many drugs being reported by the study in the 1980s. However, it is hard to reconcile this hypothesis with the virtually flat (or, if anything, slightly declining) dropout rates over the period displayed in Figure A-1, unless one posits a perfectly offsetting tendency for more completion among those who are less drug prone—hardly a very parsimonious explanation. Further, the reported prevalence of some drugs remained remarkably stable throughout those years of the study (e.g., alcohol and opiates other than heroin) and the prevalence of some rose (cocaine until 1987, and amphetamines until 1981). These facts are not very consistent with the hypothesis that there had been an increased rate of departure by the most drug prone. Certainly more youngsters leaving school in the 1980s have drug problems than was true in the 1960s. (So do more of those who stay in.) However, they still seem likely to be very much the same segment of the population, given the degree of association that exists between drug use and deviance and problem behaviors of various sorts.

MORE RECENT UPDATE ON CORRECTIONS FOR DROPOUTS

More recently, we have looked at additional data regarding the effects of exclusion of dropouts. One additional source of information is a special report from the 1988 National Household Survey on Drug Abuse.[50] This report compared selected drug use rates for 16-17 year old respondents who were classified as currently enrolled in school or as having dropped out of school. The authors of that report concluded that: "The percentage of youth aged 16 and 17 who reported use of any illicit drug, marijuana, cocaine, and alcohol did not differ significantly among dropouts and those currently enrolled in school." (pg 22) Differences in illicit drug use between high school graduates and dropouts were also slight among 21- to 25-year olds.

The authors noted that their findings appeared somewhat contrary to popular conceptions, as well as to some other research. Moreover, they reported that preliminary data for 20- to 34-year olds from the 1990 NHSDA showed higher rates of cocaine and marijuana use among dropouts. The authors conjectured that perhaps differences between dropouts and graduates emerge after age 25, when more young adults have finished college. They also noted that other variables, such as race, ethnicity, and socioeconomic status may confound the dropout versus graduate comparison. An additional problem was that, prior to the 1991 survey, the NHSDA did not include individuals who did not live in households; perhaps the more deviant dropouts were overrepresented in the excluded groups.

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[50] National Institute on Drug Abuse. (1991). "Drug use among youth: Findings from the 1988 National Household Survey on Drug Abuse." (DHHS Publication No. (ADM) 91-1765). Rockville MD: National Institute on Drug Abuse.

More recently, we have examined some data from the 1991 National Household Surveys on Drug Abuse. Specifically, we obtained estimated prevalence rates for two key illicit drugs, marijuana and cocaine, among dropouts ages 16-18. Table A-1 indicates the lifetime and monthly prevalences for Monitoring the Future seniors, and for NHSDA seniors and NHSDA dropouts.

As can be seen, the 1991 NHSDA dropouts aged 16-18 were distinctly higher in cocaine and marijuana use than the NHSDA seniors, and the 1991 MTF seniors. (This result is somewhat contradictory to the results from the earlier report based on 1988 data. The relatively small numbers of dropouts make definitive statements difficult.) As discussed above, however, the relatively small proportion of the population who are dropouts reduces the impact that their higher prevalences have on overall population estimates.

Table A-2 compares the total population prevalence estimates derived using two different methods. The first method shows the estimates that result when we use the method we previously described, which provided the data shown in Figure A-2, where the prevalence rate among dropouts is assumed to be higher than seniors present by 1.5 times the difference between seniors present and seniors absent. Column (2) in Table A-2 is calculated by reweighting the data for absenteeism, and calculating the estimated prevalence among absentees. The prevalence among dropouts (column (4)) is estimated by assuming that they differ from seniors present by a factor 1.5 times greater than the difference between seniors present and seniors absent. The data in columns (1) and (2) are combined in appropriate proportion to derive estimated prevalence among seniors present plus absentees (column (3)). The data in columns (1), (2), and (4) are combined in appropriate proportions to derive estimated prevalence rates for the entire class cohort (shown in column (6)). (For 1991, the percentage of dropouts is estimated at 15% and the percentage of seniors absent is 15.9% [based on data collected in participating schools]; these figures result in the following proportions of the total age cohort: seniors present, .715; seniors absent, .135; and dropouts, .150.)

The second method for estimating prevalence rates for dropouts (column (9)), and the entire class cohort (column (10)), is based on the estimated prevalence from MTF seniors present and seniors absent, and then adjusts for the missing dropout segment by assuming that the difference between NHSDA seniors versus NHSDA dropouts (column (8)) is the best estimate of the difference between dropouts and stayins (column (10)).

The data in columns (6) and (7) are prevalence rates reported in the 1991 NHSDA seniors and for dropouts age 16-18, and column (8) shows the algebraic difference. This absolute "bias" is treated as an estimate of the difference between seniors (present plus absent) versus dropouts. This "bias" is then applied to the estimated prevalence based on MTF data of seniors present plus absent (column (3)) to derive an estimate of the prevalence among dropouts (column (9)). These estimates are higher than the NHSDA estimates because MTF

Table A-1. Comparison of 1991 Monitoring the Future Seniors, NHSDA Seniors, and NHSDA Dropouts

	MTF Seniors	NHSDA Seniors	NHSDA Dropouts 16-18
Marijuana			
Lifetime	36.7	31.9	60.7
30-Days	13.8	11.6	21.0
Cocaine			
Life	7.8	8.6	20.0
30-Days	1.4	1.3	2.3

estimates for nondropouts are higher than the NHSDA estimates. Finally, the data in columns (3) and (9) are combined in appropriate proportion to derive estimates presented in column (10) for the entire cohort.

Note that the estimated prevalences among dropouts based on NHSDA data are not very different from the estimates using the "1.5" factor. (Compare columns (9) and (4)). Consequently, the data in column (10) show estimates that turn out to be highly similar to those in column (5). This similarity suggests that the estimates of corrections for dropouts that we have been providing, based on earlier data, are probably still reasonable. In fact, based on all of the NHSDA data, they may actually be conservatively high.

Finally, an additional piece of information relative to the comparison of drug use rates among students who stay in school versus dropouts comes from Fagan and Pabon (1990),[51] who report some comparison data between high school students and dropouts from six inner-city neighborhoods. About 1,000 male students and 1,000 female students were compared with 255 male dropouts and 143 female dropouts. Although dropouts were generally more delinquent, and more involved with substance use, there was also a great deal of variability by specific class of substances. As would be generally expected, marijuana use was lower among students, compared to dropouts. Psychedelic use, on the other hand, was *higher* among students than among dropouts. Use of tranquilizers and barbiturates was also higher among students. Amphetamine use was lower among male students, but higher among female students, compared to same-sex dropouts. Similarly, cocaine use was lower among male students, but higher among female students, compared to dropouts. Students of both genders reported more heroin use than did dropouts. Inhalant use did not differ significantly between students and dropouts.

Overall, the data indicate a distinct variation, depending on the class of drug. Although heroin use surprisingly was higher among students, it should be noted that this study was in a single city, and may not be representative of the broader array of students and dropouts. The study does show, however, that the usual assumption that dropouts invariably use drugs more than students is not always true.

SUMMARY AND CONCLUSIONS

In sum, while we believe there is some underestimation of the prevalence of drug use in the cohort at large as a result of the dropouts being omitted from the universe of the study, we think the degree of underestimation is rather limited for all drugs (with the possible exceptions of heroin, crack, and PCP) and, more importantly, that trend estimates have been rather little affected. Short of having good trend data gathered directly from dropouts we cannot close the case definitively. Nevertheless, we think the available evidence argues strongly against alternative hypotheses—a conclusion which was also reached by the members of the NIDA technical review on this subject held in 1982.[52]

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[51] Fagan, J. & Pabon, E. (1990). Contributions of delinquency and substance use to school dropout among inner-city youths. *Youth & Society, 21*, 306-354.

[52] Clayton, R.R. & Voss, H.L. (1982). *Technical review on drug abuse and dropouts.* Rockville, MD: National Institute on Drug Abuse.

> . . . the analyses provided in this report show that failure to include these two groups (absentees and dropouts) does not substantially affect the estimates of the incidence and prevalence of drug use.

EXAMPLES OF REVISED ESTIMATES FOR TWO DRUGS

Figure A-2 provides the prevalence and trend estimates of marijuana and cocaine, for both the lifetime and thirty-day prevalence periods, showing (a) the original estimates based on *participating seniors* only; (b) the empirically derived, revised estimates based on *all seniors*, including the absentees; and (c) estimates for the *entire class/age cohort*. The last estimate was developed using the assumption judged to be most reasonable above—namely that the dropouts differ from participating seniors by one and one-half times the amount that the absentees do. Estimates were calculated separately for each year, thus taking into account any differences from year to year in the participation or absentee rates. The dropout rate was taken as a constant 15% of the age group across all years, based on Census estimates.

As Figure A-2 illustrates, any difference in the slopes of the trend lines between the original and revised estimates is extremely, almost infinitesimally, small. The prevalence estimates are higher, of course, but not dramatically so, and certainly not enough to have any serious policy implications. As stated above, the corrections for eighth and tenth grade samples should be considerably less, and there is certainly no reason to think that absentee or dropout rates at those levels have changed since 1991 in any way which could have changed their trend stories. Therefore, we have confidence that the trend stories which have shown up for the in-school populations represented in this study would be very similar to the trend stories which would pertain if the entire age cohorts had been the universes from which we sampled.

FIGURE A-2

Estimates of Prevalence and Trends for the Entire Age/Class Cohort, Adjusting for Absentees and Dropouts for Twelfth Graders

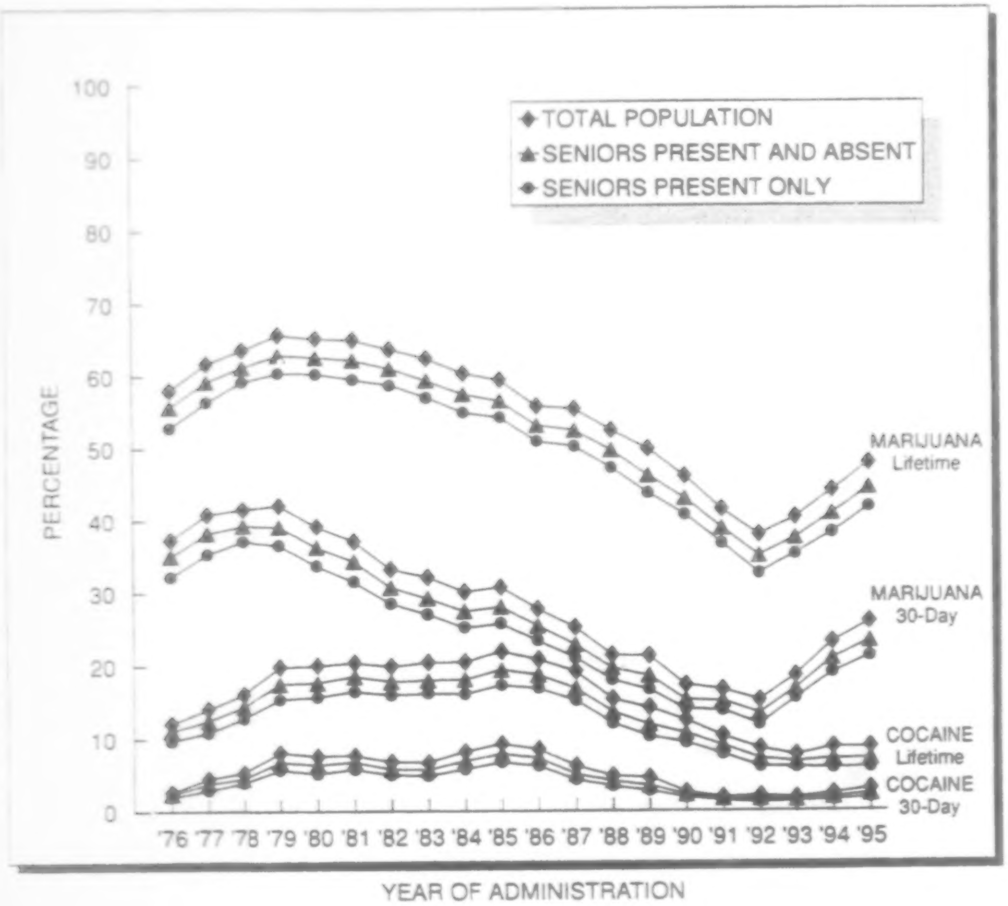

Table A-2. Estimated Prevalence Rates for Marijuana and Cocaine, 1991, Based on Monitoring the Future and National Household Survey on Drug Abuse

	Monitoring the Future					NHSDA			Combined Approach	
	(1) Seniors Present	(2) Seniors Absent	(3) Seniors Absent & Present	(4) Dropouts	(5) Total	(6) Seniors	(7) Dropouts (Age 16-18)	(8) Difference	(9) Dropouts	(10) Total
Marijuana										
Lifetime	36.7	49.9	38.8	56.5	41.4	31.9	60.7	28.8	67.6	43.1
30-Day	13.8	22.0	15.1	26.1	16.7	11.6	21.0	9.4	24.5	16.5
Cocaine										
Lifetime	7.8	15.3	9.0	19.1	10.3	8.6	20.0	11.4	20.4	10.7
30-Day	1.4	2.7	1.6	3.3	1.9	1.3	2.3	1.0	2.6	1.8

NOTES: The entries in columns are as follows:

(1) estimates based on all MTF seniors who completed questionnaires.
(2) estimated prevalences among seniors who were absent (using data from seniors who were present, as explained in text).
(3) estimated prevalences among seniors present plus seniors who were absent.
(4) estimated prevalences among dropouts, based on assumptions described in text.
(5) estimated prevalences among seniors present, seniors who were absent, and same-age dropouts.
(6) estimates based on all NHSDA respondents who were high school seniors.
(7) estimates based on all NHSDA respondents, 16-18 years old, who were not attending school and had not graduated.
(8) difference between columns (6) and (7), that is, the difference between all NHSDA seniors and dropouts; this is considered a valid estimate of the population difference between seniors and dropouts.
(9) sum of columns (3) and (8), combining MTF estimated use among all seniors (present and absent) plus the estimated population difference between all seniors and dropouts, resulting in an estimated prevalence among dropouts.
(10) weighted combined estimate of prevalence, using MTF estimates for all seniors (column (3)), and estimate of prevalence among dropouts (column (9)).

Appendix B

DEFINITION OF BACKGROUND AND DEMOGRAPHIC SUBGROUPS

Throughout this volume data are presented for the total sample of eighth, tenth and twelfth graders. Data are also presented for many subgroups of students. The following are brief descriptions of the background and demographic subgroups used in this volume.

Total: The total sample of respondents in a given year of the study.

Sex: *Male and female.* Respondents with missing data on the question asking the respondent's sex are omitted from both groupings.

College Plans: Respondents not answering the college plans question are omitted from both groupings. (Among those who do not expect to complete a four-year college program, a number still expect to get some post-secondary education.) College plans groupings are defined as follows:

None or under 4 years. Respondents who indicate they "definitely won't" or "probably won't" graduate from a four-year college program.

Complete 4 years. Respondents who indicate they "definitely will" or "probably will" graduate from a four-year college program.

Region: Region of the country in which the respondent's school is located, as determined by the Survey Research Center's Sampling Section. There are four mutually exclusive regions of the country based on Census categories, defined as follows:

Northeast. Census classifications of New England and Middle Atlantic states include: Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.

North Central. Census classifications of East North Central and West North Central states include: Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.

South. Census classifications of South Atlantic, East South Central, and West South Central states include: Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas.

West. Census classifications of Mountain and Pacific states include: Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, and California.

Population Density:

Population density of the area in which the schools are located. There are three mutually exclusive groups which are defined below. (The 1975-1985 samples were based on the 1970 Census; in 1986 one-half of the sample was based on the 1970 Census, the other half of the sample was based on the 1980 Census; after 1986 the samples were based on the 1980 Census. The three groups are defined in terms of Standard Metropolitan Statistical Area (SMSA) designations through 1985, when we changed to the new Census Bureau classifications of Metropolitan Statistical Areas (MSAs), as is described below:

Large MSAs. In the 1975-1985 samples these are the twelve largest Standard Metropolitan Statistical Areas (SMSA) as of the 1970 Census: New York, Los Angeles, Chicago, Philadelphia, Detroit, San Francisco, Washington, Boston, Pittsburgh, St. Louis, Baltimore and Cleveland. From 1986 to 1994, the "large MSA" group consisted of the 16 largest MSAs as of the 1980 Census. These 16 MSAs include all of the MSAs mentioned above (except Cleveland) and the MSAs of Dallas-Fort Worth, Houston, Nassau-Suffolk, Minneapolis-St. Paul and Atlanta.

Beginning with the first-year schools in 1994, the new sample design was based on the 1990 Census. In the 1990s sample only the 8 largest MSAs are represented at all three grade levels; the remaining 20 are divided into pairs, with half belonging to the 12th and 8th grade samples and the other half belonging to the 10th grade sample. The 8 largest are New York NY-NJ, Los Angeles CA, Chicago IL, Philadelphia PA-NJ, Detroit MI, Washington DC-MD-VA, Dallas-Ft. Worth TX, and Boston MA. The remaining are: Houston TX, Atlanta GA, Seattle-Tacoma WA, Minneapolis MN-WI, St. Louis MO-IL, San Diego CA, Baltimore MD, Tampa-St. Petersburg-Clearwater FL, Riverside-San Bernardino CA, Nassau-Suffolk NY, Anaheim-Santa Ana CA, Pittsburgh PA, Phoenix AZ, Oakland CA, Cleveland OH, Miami-Hialeah FL, Newark NJ, Denver CO, San Francisco CA, Kansas City MO-KS.

Other MSAs. Includes all other Metropolitan Statistical Areas (MSAs) except those listed above. Except in the New England states, an MSA is a county or group of contiguous counties which contains at least one city of 50,000 inhabitants or more, or "twin cities" with a combined population of at least 50,000. In the New England states MSAs consist of towns and cities instead of counties. Each MSA must include at least one central city, and the complete title of an MSA identifies the central city or cities. For the complete description of the criteria used in defining MSAs, see the Office of Management and Budget publication, *Metropolitan Statistical Areas, 1990* (NTIS-PB90-214420), Washington, D.C. The population living in MSAs is designated as the metropolitan population.

Non-MSAs. Includes all areas not designated as MSAs. The population living outside MSAs constitutes the nonmetropolitan population.

Parental Education:

This is an average of mother's education and father's education based on the respondent's answers using the following scale: (1) completed grade school or less, (2) some high school, (3) completed high school, (4) some college, (5) completed college, (6) graduate or professional school after college. Missing data was allowed on one of the two variables.

Race/Ethnicity:

White. Includes those respondents who describe themselves as White or Caucasian.

Black. Includes those respondents who in 1975-1990 describe themselves as Black or Afro-American, or who after 1990 describe themselves as Black or African American.

Hispanic. Includes those respondents who in 1975-1990 describe themselves as Mexican American or Chicano, or Puerto Rican or other Latin American. After 1990 this group includes those respondents who describe themselves as Mexican American or Chicano, or Cuban American, or Puerto Rican American, or other Latin American. After 1994, the term Puerto Rican American was shortened to Puerto Rican.

Appendix C

ESTIMATION OF SAMPLING ERRORS

This appendix provides some guidance for those who wish to calculate confidence intervals around the percentage estimates reported in this volume, or to assess the statistical significance of.differences between percentage estimates.

All of the percentages reported in this volume are estimates of the response percentage that would have been obtained if, instead of using a sample survey, we had surveyed all eighth, tenth, and twelfth grade students throughout the United States. Because we surveyed only a sample, and not the entire population, there are sampling errors associated with each estimate. For any particular percentage resulting from a sample survey we cannot know exactly how much error has resulted from sampling, but we can make reasonably good estimates of "confidence intervals"—ranges within which the "true" population value is very likely to fall. The word "true" in this context refers to the value that would be found if we had surveyed the total population, that is all eighth, tenth, and twelfth grade students in the United States. This concept of "true" population value does not take account of biases that might occur due to refusals, intentional or unintentional distortion of responses, faulty question wording, and other factors.

CALCULATING CONFIDENCE INTERVALS

The most straightforward types of samples, from a statistical standpoint at least, are simple random samples. In such samples the confidence limits for a proportion are influenced by the size of the sample, or particular subsample, under consideration, and also by the value of the proportion. (Although the estimates in this volume are expressed as percentages, this appendix generally deals with the equivalent proportion, for ease of presentation.)

The ***standard error***[53] of a proportion p based on a simple random sample of n cases is equal to:

$$\sqrt{p(1.0-p)/n} \qquad (1)$$

With a large number of cases, a symmetrical ***confidence interval*** around p would be approximated by:

$$p \pm z\sqrt{p(1.0-p)/n} \qquad (2)$$

where z is the appropriate value from the z-distribution. For a 95% confidence interval, z = 1.96.

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[53] The standard error of an estimate is a measure of sampling error; it is defined as the standard deviation of the sampling distribution of the statistic. It is used to construct the confidence interval around an estimate.

Many of the proportions presented in this volume represent rare events, with values being close to zero. At those low values, a more appropriate confidence interval would be asymmetric. A more exact calculation for confidence intervals, which will usually produce asymmetric confidence limits, is[54]:

$$\frac{n}{n+z^2}\left[p+\frac{z^2}{2n} \pm z\sqrt{\frac{p(1-p)}{n}+\frac{z^2}{4n^2}}\,\right] \tag{3}$$

Significance of Difference between Two Proportions

In addition to estimating the sampling error around a single proportion, we often wish to test the significance of a difference between two proportions, such as the difference between the proportion of marijuana users among male students as compared to among female students. The following formula produces a statistic that can be referred to a standard normal distribution, assuming reasonably large numbers of cases:

$$z = \frac{p_1-p_2}{\sqrt{p_e(1-p_e)\,\frac{n_1+n_2}{n_1 n_2}}} \tag{4}$$

where

$$p_e=\frac{n_1p_1+n_2p_2}{n_1+n_2} \tag{5}$$

and p_e is the estimated population proportion, p_1 is the observed proportion (of users) in the first group, p_2 is the observed proportion in the second group, n_1 is the number of cases in the first group, and n_2 is the number of cases in the second group.

DESIGN EFFECTS IN COMPLEX SAMPLES

Formulas (1) - (5) are appropriate only for simple random samples.[55] In complex samples such as those used in the Monitoring the Future surveys, it is also necessary to take account of the effect that the sampling design has on the size of standard errors. (A complex sample is any sample that is not a simple random sample.)

The Monitoring the Future sample design incorporates stratification, clustering, and differential weighting to adjust for differential probabilities of selection. These design elements influence sampling error. While stratification tends to heighten the precision of a sample compared with a simple random sample of the same size (usually reducing the sampling error), the effects of clustering and weighting reduce precision (usually increasing the sampling error). The net result is that complex sample designs almost always result in increased sampling error (but they usually result in more efficient samples in all other respects). Therefore, it is not appropriate to apply the standard, simple random sampling formulas to such complex samples in order to obtain estimates of sampling errors.

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[54] Formula 6.11.1, page 240 in Hays, W.L., "Statistics" (Fourth Edition), Holt, Rinehart, & Winston, 1988.

[55] A simple random sample is one in which each element is selected independently of, and with the same probability as, all other elements in the universe of elements from which the sample is drawn.

Methods exist for correcting for this underestimation, however; Kish (1965, p. 258) defines a correction term called the ***design effect*** (DEFF), where

$$DEFF = \frac{\textit{actual sampling variance}}{\textit{variance expected from a random sample}} \qquad (6)$$

Thus, if the actual sampling variance in a complex sample is four times as large as the expected sampling variance from a simple random sample with the same number of cases, the DEFF is 4.0. Because confidence intervals are proportionate to the square root of variance, the confidence intervals for such a sample would be twice as large (because the square root of 4 is 2) as the confidence interval for a simple random sample with the same number of cases. If an estimate of design effect is available, one of the simplest correction procedures to follow is to divide the actual numbers of cases by the design effect (thereby "depreciating" the actual number to its equivalent value in simple random sample terms) and then employ the standard statistical procedures that are available for application to simple random samples. Thus, for example, if the design effect (DEFF) for a sample of 16,000 were 4.0, then one could divide the 16,000 by 4.0 and the result, 4,000, could be entered as the value of "n" in statistical tables and formulas designed for use with simple random samples. In short, the strategy involves dividing the actual number of cases by the appropriate DEFF in order to get a "simple random sampling equivalent n" or, more simply, an "effective n" for use in statistical procedures designed for random samples.

Estimating Design Effects

In principle, every different statistic resulting from a complex sample can have its own design effect, and different statistics in the same sample may have quite different design effects. However, it is not feasible to compute every design effect, nor would it be feasible to report every one. Moreover, "Sampling errors computed from survey samples are themselves usually subject to great sampling variability ... Sampling theory, and experience with many and repeated computations, teach us not to rely on the precision of individual results, even when these are based on samples with large numbers of elements." (Kish, Groves, & Krotki, 1976, p. 19)[56] Thus, in practice, design effects are averaged across a number of statistics and these average values are used to estimate the design effects for other statistics based on the same sample. Sometimes, a single design effect is applied to all the estimates in a given study. In the present study, however, a rather extensive exploration of design effects revealed a number of systematic differences. These systematic differences have to do with the particular measures being examined, the subgroups involved, and the question of whether a trend over time is being considered. Thus, the estimates of design effects to be provided vary along these several dimensions.[57]

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[56] Kish L., Groves R.M., & Krotki K.P. (1976) Sampling errors for fertility surveys (Occasional Paper Series No. 17). Voorburg, The Netherlands: International Statistical Institute.

Factors Affecting Design Effects

Design effects are systematically related to two factors: the amount of "clustering" and the average cluster size. (Each school in the Monitoring the Future design can be considered a cluster.) Specifically,

$$\boldsymbol{DEFF} \approx 1 + \rho\,(\bar{n} - 1) \tag{7}$$

(Kish, 1965, section 5, p. 162; Kalton, 1983, p. 31)

where n̄ is the average cluster size and ρ is the intraclass correlation coefficient measuring the degree of cluster homogeneity. Note that the equality is approximate.

An important consequence of this relationship is that subgroups such as male or female that are typically represented within all clusters (that is, schools) have a lower average cluster size. All (or virtually all) of the schools in the sample have both male and female students. Thus, each of these subgroups is spread more or less evenly across the full number of clusters (schools). Because each of these subgroups includes approximately half of the total sample, the average number of cases per cluster is about half as large as for the total sample, and this leads to a smaller design effect than is found for the total sample. (There is usually not much difference in ρ, the measure of cluster homogeneity.) Other subgroups involving college plans or parental education are also distributed across all clusters (although not as evenly as gender) and thus are subject to the same phenomenon of smaller design effects because of the smaller number of cases per cluster. This is in contrast to the situation with subgroups such as region of the country, each of which will normally have the same average cluster size as the total sample from the whole country. The former type of subgroup (cross-class) will usually have a lower design effect, while the latter type of subgroup (segregated) will usually have a design effect similar to the overall. In this study, cross-class subgroups include gender, college plans, and parental education. Segregated subgroups include region and population density. Race/ethnicity is a mixed case, in that there tends to be substantial clustering by school. Consequently, design effects for minority race/ethnic subgroups tend to be somewhat higher than average, though this tendency is not always evidenced. Because such a high proportion of respondents in most schools are white, the associated design effects tend to be similar to the overall design effects.

As an empirical generalization, we have observed that design effects tend to be related to the actual prevalences of substance use. Thus, rarely used substances such as heroin typically have low design effects, while more commonly used substances such as cigarettes, alcohol, and marijuana typically have high design effects. Similarly, the design effect associated with the estimate of lifetime prevalence of any given substance is usually greater than (or equal to) the design effect associated with annual prevalence of that substance, which is in turn greater than the design effect for monthly prevalence. This tendency would imply that eighth grade design effects would typically be lower than those for tenth grade, which would be lower than twelfth grade (because prevalence rates are usually greater in the upper grades). However, eighth grade schools tend to be more homogenous in socioeconomic terms than do high schools, because they tend to draw from smaller geographic areas; this tends to make eighth grade schools more homogenous with respect to drug use, which would lead to larger design effects. The combination of factors leads to slightly lower design effects for the lower grade levels (although not in all cases).

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[57] All design effects were estimated using the Taylor series expansion method, as implemented in the OSIRIS.IV software analysis system.

Design Effects for Differences between Two Proportions

Trends between two non-adjacent years. A trend over an interval greater than one year (for example, a comparison between 1994 and 1980) is basically a comparison between estimates from independent samples. Therefore, the design effects for a single estimated proportion is appropriate.

Trends between adjacent years. One of the central purposes of the Monitoring the Future project is to monitor trends over time; indeed, the study procedures have been standardized across years insofar as possible in order to provide the opportunity for sensitive measurement of change. One of the factors designed to produce an added degree of consistency from one year to the next is the use of each school for two data collections, which means that for any two successive years half of the sample of schools is the same. This means that there is a good deal of consistency in the sampling and clustering of the sample from one year to the next. As a result, when one-year comparisons are made between adjacent years, the design effects are appreciably smaller than if completely independent samples of schools had been drawn each year. In other words, the samples in adjacent years are not independent; on the contrary, there is a considerable degree of covariance between them. This covariance, or partial "matching," reduces the design effect for differences observed between adjacent years, compared to what they would have been with totally independent samples.

In order to estimate the extent of "shrinkage", we calculated about 95 DEFFs for adjacent 1-year trend data where we had prevalence data for the same grade/drug combinations. The relationship between the two sets of DEFFs (prevalence versus 1-year trend) was found to be approximately linear, with a product-moment correlation of .88 for DEFFs (and .89 for DEFTs, the square root of DEFF). This seemed sufficiently high to justify simply estimating the linear relation, predicting the trend DEFF from the prevalence DEFF, and using that to estimate the 1-year trend DEFF for all measures.

Comparisons between subgroups within a single year. We examined a variety of design effects involving comparisons between subgroups based on gender, college plans, and parental education. A considerable simplification was achieved when we noted that generally the average DEFF values for subgroup comparisons were quite similar to the average DEFF values for 1-year trends.

With respect to region and population density subgroups, because the samples are essentially independent, the prevalence design effects are appropriate for comparisons among these subgroups.

Thus, our exploration of design effects resulted in the following strategies and simplifications:

Design effects are provided for 7 different groupings of drugs, as follows:

(a) An Index of Use of Illicit Drugs Other Than Marijuana
(b) Use of Any Illicit Drug, Use of Any Illicit Drug including Inhalants, and Marijuana
(c) Hallucinogens, LSD, Cocaine, and Other Cocaine (i.e., not Crack)
(d) Heroin, Crack Cocaine, Steroids, Nitrites, PCP, Ice, and Methaqualone
(e) Opiates Other Than Heroin, Barbiturates, Tranquilizers, Hallucinogens Other Than LSD, and Sedatives
(f) Amphetamines and Inhalants
(g) Alcohol (including Use of Alcohol and Getting Drunk) and Tobacco (including Smokeless Tobacco)

Design effects were found to be generally similar for all the drugs contained within each grouping.

In general, intervals of use (lifetime, annual, 30-day, daily) are distinguished. For some substances, though, the variation by interval was slight enough to ignore.

On both logical and empirical grounds, there seemed little reason to distinguish among the "segregated" groups: total sample, and groups defined by region and by population density. The average cluster size should be about the same, and there should not be much variation in the degree to which drug use clusters by school within these categories. Some variation was evident empirically, but it did not appear to be systematic. Thus, these groups are assigned equal design effects.

Separate design effect values are provided for estimates of use (prevalence) among the three grade levels (8, 10, 12), for subgroups defined by gender (males, females), college plans (planning to complete 4 years, not planning to complete 4 years), parental education (five levels), and race/ethnicity (black, white, Hispanic). In some cases, particularly for the less prevalent drugs, where design effects are very low, the estimated design effects in fact do not vary by group.

Estimates of design effects are also provided for 1-year trends. For trends across nonadjacent years, the standard design effects for prevalence are appropriate. Estimates of design effects are also provided separately for comparisons of subgroups within a given year.

DETERMINING EFFECTIVE N'S

Tables C1-C3 provide estimates of design effects that can be used to "shrink" the weighted numbers of cases given in each table in this volume to an "effective n", which allows for the use of standard formulas in calculating sampling errors, confidence intervals, and statistical significance of differences in proportions. The tables are in sets of three: the first set (C1a-C1g) is appropriately used for a 1-year trend across adjacent years; the second set (C2a-C2g) is for a single prevalence or a comparison across non-adjacent years; and the third (C3a-C3g) for a comparison between subgroups in a single year. To use the tables, the reader should determine whether the design effect is needed for a 1-year trend (Table C1), a single prevalence (Table C2), or a subgroup comparison within a year (Table C3), and which substance is involved (a-g), and then, the appropriate table can be accessed. Within the table, the reader needs to determine which subgroup (or Total sample) is involved, which grade level, and which interval of use. Then, the appropriate design effect can be looked up, and used to deflate the weighted number of cases, to arrive at an "effective n." This effective n would be used in formulas (1) to (5), given above.

As an example, suppose one wished to compare the annual prevalence of marijuana use for the total tenth grade sample in 1991 with 1994. Table 1 indicates that prevalence was 16.5% in 1991, based on 14,800 cases; and 25.2% in 1994, based on 15,800 cases. Table C2b shows that an appropriate design effect for tenth grade annual marijuana use is 6.2. Each year's n would be divided by 6.2, producing effective n's of 2387 and 2548. These effective n's would be used in formula (4) to test whether the difference in proportions between the two years is statistically significant.

A Special Note on Racial/Ethnic Subgroups

As noted earlier in this volume, the prevalence estimates for racial/ethnic subgroups are reported for 2-year averages, instead of for single years, because of limited sample sizes. The design effects for prevalences for racial/ethnic subgroups provided in Tables C2a-C2g are appropriately applied to the number of cases provided for the combined years. In calculating a 1-year trend between the two most recent prevalence figures, however, one is in effect taking a trend between a prevalence based on data from the most recent single year and a prevalence based on data from a single year 2 years prior to the most recent year. For example, comparing the estimate based on combined 1994 and 1995 data with the combined 1993 and 1994 data is equivalent to comparing 1993 and 1995 because the 1994 observed value is contained in both data points and therefore cancels itself out. The design effects for trends provided in Tables C1a-C1g are therefore appropriately applied to one-half of the number of cases provided in each table for the combined years.

A NOTE ON INTERPRETATION OF DIFFERENCES AND STATISTICAL SIGNIFICANCE

This appendix provides the reader with procedures to assess the statistical significance of differences over time or between groups. In the text of this report the authors frequently comment on particular differences over time or between groups in terms of drug use. In general, our conclusions are based to a considerable extent on ***patterns*** of cross-time changes rather than on the statistical significance of any single comparison. That is, we assess the overall pattern of evidence, rather than any single finding to assess the likely validity of the finding.

There are at least five types of patterns that we inspect:

(1) replication across grades.

Because the annual samples of eighth, tenth, and twelfth grade students are three ***completely independent samples***, one pattern that we look for is the similarity or contrast in changes that occur in the three groups. Although there is no requirement that changes

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occur similarly in all three groups, to the extent that a change is similar (or at least not inconsistent), we are more confident in its validity.

(2) replication across subgroups

To the extent that a change has occurred across a broad range of subgroups, we are more confident in its validity. For example, if an increase in use occurs among males and females, among noncollege bound and college bound, in different regions, etc., we would be more inclined to accept the change as reflecting an underlying reality.

(3) replication across half-samples

Because half of the schools remain the same from one-year to the next, any changes across a one-year interval can be examined for the half-sample that has remained constant. In other words, the data are examined for only the schools that provide data for both years. This removes any differences that may have occurred due simply to different schools being included.

(4) consistency across several years

Although each year's report emphasizes the changes in the most recent year, we pay careful attention to trends across several recent years. For example, when we observe a third or fourth consecutive year of consistent change in one direction (up or down), then we are more inclined to accept the validity of the general trend, even if none of the changes in any of the 1-year intervals was statistically significant.

(5) replication across different variables

Another type of replication or validation involves examining trends in different variables that might be expected to covary. For example, we have observed that perceived risk of harm associated with use of a specific substance tends to covary (negatively) with actual use of the substance. Similarly, we would expect reports of friends' use of specific substances to covary (positively) with reports of the respondents' own use. To the extent that different variables covary in the expected manner, then we would be more confident in interpreting the results.

Although we do not generally discuss all of these various contributions to our confidence, we do generally assess them, prior to making interpretations.

Tables of Design Effects to Use in Calculating "*Effective Ns*"

Table C-1, One-Year Trends in Prevalence

(a) An Index of Use of Illicit Drugs Other Than Marijuana
(b) Use of Any Illicit Drug, Use of Any Illicit Drug including Inhalants, and Marijuana
(c) Hallucinogens, LSD, Cocaine, and Other Cocaine (i.e., not Crack)
(d) Heroin, Crack Cocaine, Steroids, Nitrites, PCP, Ice, and Methaqualone
(e) Opiates Other than Heroin, Barbiturates, Tranquilizers, Hallucinogens Other than LSD, and Sedatives
(f) Amphetamines and Inhalants
(g) Alcohol (including Use of Alcohol and Getting Drunk) and Tobacco (including Smokeless Tobacco)

Table C-2, Prevalence or Change in Prevalence across Non-adjacent Years

(a) An Index of Use of Illicit Drugs Other Than Marijuana
(b) Use of Any Illicit Drug, Use of Any Illicit Drug including Inhalants, and Marijuana
(c) Hallucinogens, LSD, Cocaine, and Other Cocaine (i.e., not Crack)
(d) Heroin, Crack Cocaine, Steroids, Nitrites, PCP, Ice, and Methaqualone
(e) Opiates Other Than Heroin, Barbiturates, Tranquilizers, Hallucinogens Other Than LSD, and Sedatives
(f) Amphetamines and Inhalants
(g) Alcohol (including Use of Alcohol and Getting Drunk) and Tobacco (including Smokeless Tobacco)

Table C-3, Subgroups Comparisons within Any Single Year

(a) An Index of Use of Illicit Drugs Other Than Marijuana
(b) Use of Any Illicit Drug, Use of Any Illicit Drug including Inhalants, and Marijuana
(c) Hallucinogens, LSD, Cocaine, and Other Cocaine (i.e., not Crack)
(d) Heroin, Crack Cocaine, Steroids, Nitrites, PCP, Ice, and Methaqualone
(e) Opiates Other Than Heroin, Barbiturates, Tranquilizers, Hallucinogens Other Than LSD, and Sedatives
(f) Amphetamines and Inhalants
(g) Alcohol (including Use of Alcohol and Getting Drunk) and Tobacco (including Smokeless Tobacco)

TABLE C-1a
Design Effects for 1-Year Trends in Prevalence

		INDEX OF ANY ILLICIT DRUGS OTHER THAN MARIJUANA			
		Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:					
Total Sample: Any Region *(Northeast, North Central, South, and West)*; Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*					
	8th Grade	3.9	3.3	2.6	1.2
	10th Grade	4.3	3.6	2.7	1.2
	12th Grade	4.9	4.4	3.3	1.7
CROSS-CLASS GROUPS:					
Gender:					
Male	8th Grade	2.8	2.5	2.2	1.3
	10th Grade	3.1	2.7	2.4	1.2
	12th Grade	3.2	2.9	2.4	1.7
Female	8th Grade	3.1	2.8	2.1	1.2
	10th Grade	3.3	2.9	2.2	1.1
	12th Grade	3.5	3.3	2.8	1.6
College Plans:					
None or under 4 yrs.	8th Grade	2.0	1.9	1.6	1.2
	10th Grade	2.2	2.1	1.8	1.4
	12th Grade	2.1	1.9	1.6	1.5
Complete 4 years	8th Grade	3.5	2.8	2.3	1.2
	10th Grade	4.1	3.3	2.5	1.1
	12th Grade	4.4	3.8	3.0	1.7
Parental Education:					
Any stratum	8th Grade	2.1	2.0	1.6	1.1
	10th Grade	2.2	2.0	1.7	1.2
	12th Grade	2.4	2.2	1.7	1.4
Racial/Ethnic Group:					
White	8th Grade	4.0	3.8	2.9	1.4
	10th Grade	4.9	4.3	3.0	1.5
	12th Grade	4.2	4.0	2.9	2.0
Black	8th Grade	2.7	2.0	1.5	1.2
	10th Grade	3.0	2.6	1.9	1.3
	12th Grade	3.7	3.3	3.0	1.6
Hispanic	8th Grade	3.8	2.7	2.0	1.5
	10th Grade	4.5	2.9	1.8	1.3
	12th Grade	6.9	5.8	3.0	1.9

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-1b
Design Effects for 1-Year Trends in Prevalence

			INDICES OF ANY ILLICIT DRUG USE, ANY ILLICIT DRUG USE INCLUDING INHALANTS, AND MARIJUANA			
			Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:						
Total Sample: Any Region *(Northeast, North Central, South, and West)*; Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*						
		8th Grade	4.1	3.5	3.2	1.4
		10th Grade	5.0	4.3	3.4	1.5
		12th Grade	6.9	6.6	5.4	2.8
CROSS-CLASS GROUPS:						
Gender:						
	Male	**8th Grade**	2.4	2.4	2.4	1.5
		10th Grade	3.4	3.0	3.0	1.5
		12th Grade	3.8	3.4	3.0	2.7
	Female	**8th Grade**	3.4	3.0	2.4	1.3
		10th Grade	4.0	3.4	2.7	1.1
		12th Grade	4.6	4.6	4.5	2.6
College Plans:						
	None or under 4 yrs.	**8th Grade**	2.3	2.3	2.0	1.3
		10th Grade	2.8	2.8	2.7	2.0
		12th Grade	2.4	2.4	2.1	2.1
	Complete 4 years	**8th Grade**	3.3	2.4	2.4	1.5
		10th Grade	5.1	4.0	3.2	1.1
		12th Grade	6.1	5.3	4.5	3.0
Parental Education:						
	Any stratum	**8th Grade**	2.1	2.1	1.9	1.1
		10th Grade	2.5	2.3	2.2	1.4
		12th Grade	3.0	2.8	2.3	1.9
Racial/Ethnic Group:						
	White	**8th Grade**	4.5	4.4	4.1	1.9
		10th Grade	7.2	5.8	4.5	2.1
		12th Grade	5.0	5.0	4.2	3.7
	Black	**8th Grade**	3.0	2.1	1.3	1.1
		10th Grade	4.0	4.0	2.6	1.5
		12th Grade	6.0	6.0	6.0	2.5
	Hispanic	**8th Grade**	2.6	2.6	2.1	2.0
		10th Grade	4.9	3.0	1.6	1.5
		12th Grade	12.0	11.7	5.3	3.4

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-1c
Design Effects for 1-Year Trends in Prevalence

		HALLUCINOGENS (UNADJUSTED AND ADJUSTED), LSD, COCAINE, OTHER COCAINE			
		Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:					
Total Sample: Any Region *(Northeast, North Central, South, and West)*; Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*					
	8th Grade	4.3	3.5	2.5	1.1
	10th Grade	4.3	3.5	2.5	1.1
	12th Grade	4.3	3.5	2.5	1.1
CROSS-CLASS GROUPS:					
Gender:					
Male	8th Grade	3.2	2.8	2.4	1.1
	10th Grade	3.2	2.8	2.4	1.1
	12th Grade	3.2	2.8	2.4	1.1
Female	8th Grade	3.2	2.8	2.0	1.1
	10th Grade	3.2	2.8	2.0	1.1
	12th Grade	3.2	2.8	2.0	1.1
College Plans:					
None or under 4 yrs.	8th Grade	2.0	1.9	1.4	1.1
	10th Grade	2.0	1.9	1.4	1.1
	12th Grade	2.0	1.9	1.4	1.1
Complete 4 years	8th Grade	4.2	3.2	2.4	1.1
	10th Grade	4.2	3.2	2.4	1.1
	12th Grade	4.2	3.2	2.4	1.1
Parental Education:					
Any stratum	8th Grade	2.1	1.9	1.5	1.1
	10th Grade	2.1	1.9	1.5	1.1
	12th Grade	2.1	1.9	1.5	1.1
Racial/Ethnic Group:					
White	8th Grade	4.2	3.8	2.8	1.2
	10th Grade	4.2	3.8	2.8	1.2
	12th Grade	4.2	3.8	2.8	1.2
Black	8th Grade	1.4	1.4	1.3	1.2
	10th Grade	1.4	1.4	1.3	1.2
	12th Grade	1.4	1.4	1.3	1.2
Hispanic	8th Grade	6.1	3.3	2.3	1.2
	10th Grade	6.1	3.3	2.3	1.2
	12th Grade	6.1	3.3	2.3	1.2

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-1d
Design Effects for 1-Year Trends in Prevalence

		HEROIN, CRACK COCAINE, STEROIDS, NITRITES, PCP, ICE, METHAQUALONE			
		Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:					
Total Sample: Any Region *(Northeast, North Central, South, and West)*; Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*					
	8th Grade	1.9	1.3	1.3	1.1
	10th Grade	1.9	1.3	1.3	1.1
	12th Grade	1.9	1.3	1.3	1.1
CROSS-CLASS GROUPS:					
Gender:					
Male	8th Grade	1.3	1.3	1.3	1.1
	10th Grade	1.3	1.3	1.3	1.1
	12th Grade	1.3	1.3	1.3	1.1
Female	8th Grade	1.9	1.5	1.3	1.1
	10th Grade	1.9	1.5	1.3	1.1
	12th Grade	1.9	1.5	1.3	1.1
College Plans:					
None or under 4 yrs.	8th Grade	1.4	1.4	1.4	1.1
	10th Grade	1.4	1.4	1.4	1.1
	12th Grade	1.4	1.4	1.4	1.1
Complete 4 years	8th Grade	1.5	1.3	1.1	1.1
	10th Grade	1.5	1.3	1.1	1.1
	12th Grade	1.5	1.3	1.1	1.1
Parental Education:					
Any stratum	8th Grade	1.3	1.3	1.3	1.1
	10th Grade	1.3	1.3	1.3	1.1
	12th Grade	1.3	1.3	1.3	1.1
Racial/Ethnic Group:					
White	8th Grade	1.6	1.5	1.4	1.2
	10th Grade	1.6	1.5	1.4	1.2
	12th Grade	1.6	1.5	1.4	1.2
Black	8th Grade	1.8	1.8	1.8	1.2
	10th Grade	1.8	1.8	1.8	1.2
	12th Grade	1.8	1.8	1.8	1.2
Hispanic	8th Grade	2.0	1.6	1.5	1.2
	10th Grade	2.0	1.6	1.5	1.2
	12th Grade	2.0	1.6	1.5	1.2

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-1e
Design Effects for 1-Year Trends in Prevalence

			OPIATES OTHER THAN HEROIN, BARBITURATES, TRANQUILIZERS, HALLUCINOGENS OTHER THAN LSD, SEDATIVES			
			Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:						
Total Sample: Any Region *(Northeast, North Central, South, and West)*; Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*						
		8th Grade	2.4	2.2	1.5	1.1
		10th Grade	2.4	2.2	1.5	1.1
		12th Grade	2.4	2.2	1.5	1.1
CROSS-CLASS GROUPS:						
Gender:						
	Male	8th Grade	2.1	2.1	1.6	1.1
		10th Grade	2.1	2.1	1.6	1.1
		12th Grade	2.1	2.1	1.6	1.1
	Female	8th Grade	2.0	1.6	1.3	1.1
		10th Grade	2.0	1.6	1.3	1.1
		12th Grade	2.0	1.6	1.3	1.1
College Plans:						
	None or under 4 yrs.	8th Grade	2.0	1.6	1.3	1.1
		10th Grade	2.0	1.6	1.3	1.1
		12th Grade	2.0	1.6	1.3	1.1
	Complete 4 years	8th Grade	2.0	1.6	1.3	1.1
		10th Grade	2.0	1.6	1.3	1.1
		12th Grade	2.0	1.6	1.3	1.1
Parental Education:						
	Any stratum	8th Grade	2.0	1.6	1.3	1.1
		10th Grade	2.0	1.6	1.3	1.1
		12th Grade	2.0	1.6	1.3	1.1
Racial/Ethnic Group:						
	White	8th Grade	2.5	2.5	1.9	1.2
		10th Grade	2.5	2.5	1.9	1.2
		12th Grade	2.5	2.5	1.9	1.2
	Black	8th Grade	1.5	1.5	1.4	1.2
		10th Grade	1.5	1.5	1.4	1.2
		12th Grade	1.5	1.5	1.4	1.2
	Hispanic	8th Grade	1.6	1.4	1.3	1.2
		10th Grade	1.6	1.4	1.3	1.2
		12th Grade	1.6	1.4	1.3	1.2

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-1f
Design Effects for 1-Year Trends in Prevalence

		AMPHETAMINES, INHALANTS (UNADJUSTED AND ADJUSTED)			
		Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:					
Total Sample: Any Region *(Northeast, North Central, South, and West)*; Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*					
	8th Grade	3.5	3.0	2.1	1.1
	10th Grade	3.5	3.0	2.1	1.1
	12th Grade	3.5	3.0	2.1	1.1
CROSS-CLASS GROUPS:					
Gender:					
Male	8th Grade	2.7	2.4	1.9	1.1
	10th Grade	2.7	2.4	1.9	1.1
	12th Grade	2.7	2.4	1.9	1.1
Female	8th Grade	2.7	2.7	1.9	1.1
	10th Grade	2.7	2.7	1.9	1.1
	12th Grade	2.7	2.7	1.9	1.1
College Plans:					
None or under 4 yrs.	8th Grade	1.9	1.5	1.3	1.1
	10th Grade	1.9	1.5	1.3	1.1
	12th Grade	1.9	1.5	1.3	1.1
Complete 4 years	8th Grade	3.0	2.7	2.0	1.1
	10th Grade	3.0	2.7	2.0	1.1
	12th Grade	3.0	2.7	2.0	1.1
Parental Education:					
Any stratum	8th Grade	2.0	1.9	1.4	1.1
	10th Grade	2.0	1.9	1.4	1.1
	12th Grade	2.0	1.9	1.4	1.1
Racial/Ethnic Group:					
White	8th Grade	3.3	3.2	1.8	1.2
	10th Grade	3.3	3.2	1.8	1.2
	12th Grade	3.3	3.2	1.8	1.2
Black	8th Grade	3.6	2.4	1.8	1.2
	10th Grade	3.6	2.4	1.8	1.2
	12th Grade	3.6	2.4	1.8	1.2
Hispanic	8th Grade	2.6	2.3	1.5	1.2
	10th Grade	2.6	2.3	1.5	1.2
	12th Grade	2.6	2.3	1.5	1.2

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-1g
Design Effects for 1-Year Trends in Prevalence

		ALCOHOL, BEEN DRUNK		CIGARETTES, SMOKELESS TOBACCO	
		Lifetime, Past 12 Months, Past 30 Days, 5+/2 Weeks	Daily	Lifetime, Past 30 Days, Daily	Half-pack or More per Day
SEGREGATED GROUPS:					
Total Sample: Any Region *(Northeast, North Central, South, and West)*; Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*					
	8th Grade	3.7	1.3	3.8	3.0
	10th Grade	3.7	1.3	3.8	3.0
	12th Grade	3.7	1.3	3.8	3.0
CROSS-CLASS GROUPS:					
Gender:					
Male	8th Grade	2.4	1.3	2.3	2.0
	10th Grade	2.4	1.3	2.3	2.0
	12th Grade	2.4	1.3	2.3	2.0
Female	8th Grade	3.1	1.3	3.6	2.6
	10th Grade	3.1	1.3	3.6	2.6
	12th Grade	3.1	1.3	3.6	2.6
College Plans:					
None or under 4 yrs.	8th Grade	2.1	1.3	2.0	2.0
	10th Grade	2.1	1.3	2.0	2.0
	12th Grade	2.1	1.3	2.0	2.0
Complete 4 years	8th Grade	3.2	1.3	3.2	2.3
	10th Grade	3.2	1.3	3.2	2.3
	12th Grade	3.2	1.3	3.2	2.3
Parental Education:					
Any stratum	8th Grade	2.0	1.3	2.1	1.9
	10th Grade	2.0	1.3	2.1	1.9
	12th Grade	2.0	1.3	2.1	1.9
Racial/Ethnic Group:					
White	8th Grade	3.6	1.4	3.7	2.6
	10th Grade	3.6	1.4	3.7	2.6
	12th Grade	3.6	1.4	3.7	2.6
Black	8th Grade	4.5	1.4	2.4	1.4
	10th Grade	4.5	1.4	2.4	1.4
	12th Grade	4.5	1.4	2.4	1.4
Hispanic	8th Grade	3.0	1.4	2.7	1.9
	10th Grade	3.0	1.4	2.7	1.9
	12th Grade	3.0	1.4	2.7	1.9

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-2a

Design Effects for (a) a Prevalence or (b) a Change in Prevalence Across Nonadjacent Years

		INDEX OF ANY ILLICIT DRUGS OTHER THAN MARIJUANA			
		Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:					
Total Sample: Any Region *(Northeast, North Central, South, and West)*; Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*					
	8th Grade	5.6	4.6	3.3	1.3
	10th Grade	6.2	5.0	3.4	1.4
	12th Grade	7.2	6.4	4.6	2.0
CROSS-CLASS GROUPS:					
Gender:					
Male	8th Grade	3.6	3.2	2.6	1.4
	10th Grade	4.1	3.5	3.0	1.4
	12th Grade	4.4	3.7	3.0	2.0
Female	8th Grade	4.2	3.7	2.4	1.3
	10th Grade	4.5	3.9	2.6	1.2
	12th Grade	4.9	4.6	3.6	1.9
College Plans:					
None or under 4 yrs.	8th Grade	2.3	2.2	1.8	1.3
	10th Grade	2.7	2.5	2.2	1.5
	12th Grade	2.4	2.3	1.9	1.6
Complete 4 years	8th Grade	4.8	3.6	2.8	1.4
	10th Grade	5.9	4.5	3.2	1.2
	12th Grade	6.4	5.3	4.0	2.1
Parental Education:					
Any stratum	8th Grade	2.4	2.2	1.8	1.2
	10th Grade	2.6	2.3	2.0	1.3
	12th Grade	2.9	2.6	2.0	1.5
Racial/Ethnic Group:					
White	8th Grade	5.0	4.8	3.6	1.8
	10th Grade	6.1	5.3	3.8	1.9
	12th Grade	5.2	5.0	3.7	2.5
Black	8th Grade	3.3	2.5	1.8	1.5
	10th Grade	3.8	3.3	2.4	1.6
	12th Grade	4.6	4.1	3.8	2.0
Hispanic	8th Grade	4.7	3.4	2.5	1.8
	10th Grade	5.7	3.6	2.3	1.6
	12th Grade	8.6	7.2	3.8	2.4

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-2b

Design Effects for (a) a Prevalence or (b) a Change in Prevalence Across Nonadjacent Years

		INDICES OF ANY ILLICIT DRUG USE, ANY ILLICIT DRUG USE INCLUDING INHALANTS, AND MARIJUANA			
		Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:					
Total Sample: Any Region *(Northeast, North Central, South, and West)*; Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*					
	8th Grade	5.8	4.8	4.3	1.6
	10th Grade	7.5	6.2	4.7	1.7
	12th Grade	10.7	10.2	8.1	3.6
CROSS-CLASS GROUPS:					
Gender:					
Male	8th Grade	3.0	3.0	3.0	1.8
	10th Grade	4.6	4.0	4.0	1.7
	12th Grade	5.4	4.6	4.0	3.5
Female	8th Grade	4.6	4.0	2.9	1.4
	10th Grade	5.7	4.6	3.5	1.1
	12th Grade	6.8	6.7	6.5	3.3
College Plans:					
None or under 4 yrs.	8th Grade	2.7	2.7	2.2	1.5
	10th Grade	3.7	3.7	3.4	2.2
	12th Grade	3.0	3.0	2.5	2.5
Complete 4 years	8th Grade	4.5	3.0	3.0	1.7
	10th Grade	7.6	5.7	4.3	1.1
	12th Grade	9.3	8.0	6.6	3.9
Parental Education:					
Any stratum	8th Grade	2.5	2.4	2.0	1.2
	10th Grade	3.1	2.8	2.6	1.6
	12th Grade	4.0	3.6	2.8	2.0
Racial/Ethnic Group:					
White	8th Grade	5.6	5.5	5.1	2.4
	10th Grade	9.0	7.3	5.6	2.6
	12th Grade	6.3	6.3	5.3	4.6
Black	8th Grade	3.8	2.6	1.6	1.4
	10th Grade	5.0	5.0	3.3	1.9
	12th Grade	7.5	7.5	7.5	3.1
Hispanic	8th Grade	3.3	3.3	2.6	2.5
	10th Grade	6.1	3.8	2.0	1.9
	12th Grade	15.0	14.6	6.6	4.3

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-2c

Design Effects for (a) a Prevalence or (b) a Change in Prevalence Across Nonadjacent Years

		HALLUCINOGENS (UNADJUSTED AND ADJUSTED), LSD, COCAINE, OTHER COCAINE			
		Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:					
Total Sample: Any Region *(Northeast, North Central, South, and West)*; Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*					
	8th Grade	6.2	4.9	3.2	1.2
	10th Grade	6.2	4.9	3.2	1.2
	12th Grade	6.2	4.9	3.2	1.2
CROSS-CLASS GROUPS:					
Gender:					
Male	8th Grade	4.3	3.7	2.9	1.2
	10th Grade	4.3	3.7	2.9	1.2
	12th Grade	4.3	3.7	2.9	1.2
Female	8th Grade	4.4	3.6	2.2	1.2
	10th Grade	4.4	3.6	2.2	1.2
	12th Grade	4.4	3.6	2.2	1.2
College Plans:					
None or under 4 yrs.	8th Grade	2.2	2.0	1.6	1.2
	10th Grade	2.2	2.0	1.6	1.2
	12th Grade	2.2	2.0	1.6	1.2
Complete 4 years	8th Grade	6.0	4.4	3.0	1.2
	10th Grade	6.0	4.4	3.0	1.2
	12th Grade	6.0	4.4	3.0	1.2
Parental Education:					
Any stratum	8th Grade	2.4	2.1	1.7	1.2
	10th Grade	2.4	2.1	1.7	1.2
	12th Grade	2.4	2.1	1.7	1.2
Racial/Ethnic Group:					
White	8th Grade	5.3	4.8	3.5	1.5
	10th Grade	5.3	4.8	3.5	1.5
	12th Grade	5.3	4.8	3.5	1.5
Black	8th Grade	1.8	1.8	1.6	1.5
	10th Grade	1.8	1.8	1.6	1.5
	12th Grade	1.8	1.8	1.6	1.5
Hispanic	8th Grade	7.6	4.1	2.9	1.5
	10th Grade	7.6	4.1	2.9	1.5
	12th Grade	7.6	4.1	2.9	1.5

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-2d

Design Effects for (a) a Prevalence or (b) a Change in Prevalence Across Nonadjacent Years

		HEROIN, CRACK COCAINE, STEROIDS, NITRITES, PCP, ICE, METHAQUALONE			
		Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:					
Total Sample: Any Region *(Northeast, North Central, South, and West)*; Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*					
	8th Grade	2.0	1.5	1.5	1.2
	10th Grade	2.0	1.5	1.5	1.2
	12th Grade	2.0	1.5	1.5	1.2
CROSS-CLASS GROUPS:					
Gender:					
Male	8th Grade	1.4	1.4	1.4	1.2
	10th Grade	1.4	1.4	1.4	1.2
	12th Grade	1.4	1.4	1.4	1.2
Female	8th Grade	2.1	1.7	1.5	1.2
	10th Grade	2.1	1.7	1.5	1.2
	12th Grade	2.1	1.7	1.5	1.2
College Plans:					
None or under 4 yrs.	8th Grade	1.6	1.6	1.6	1.2
	10th Grade	1.6	1.6	1.6	1.2
	12th Grade	1.6	1.6	1.6	1.2
Complete 4 years	8th Grade	1.7	1.4	1.2	1.2
	10th Grade	1.7	1.4	1.2	1.2
	12th Grade	1.7	1.4	1.2	1.2
Parental Education:					
Any stratum	8th Grade	1.4	1.4	1.4	1.2
	10th Grade	1.4	1.4	1.4	1.2
	12th Grade	1.4	1.4	1.4	1.2
Racial/Ethnic Group:					
White	8th Grade	2.0	1.9	1.8	1.5
	10th Grade	2.0	1.9	1.8	1.5
	12th Grade	2.0	1.9	1.8	1.5
Black	8th Grade	2.3	2.3	2.3	1.5
	10th Grade	2.3	2.3	2.3	1.5
	12th Grade	2.3	2.3	2.3	1.5
Hispanic	8th Grade	2.5	2.0	1.9	1.5
	10th Grade	2.5	2.0	1.9	1.5
	12th Grade	2.5	2.0	1.9	1.5

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-2e

Design Effects for (a) a Prevalence or (b) a Change in Prevalence Across Nonadjacent Years

		OPIATES OTHER THAN HEROIN, BARBITURATES, TRANQUILIZERS, HALLUCINOGENS OTHER THAN LSD, SEDATIVES			
		Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:					
Total Sample: Any Region *(Northeast, North Central, South, and West)*; Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*					
	8th Grade	2.9	2.6	1.7	1.2
	10th Grade	2.9	2.6	1.7	1.2
	12th Grade	2.9	2.6	1.7	1.2
CROSS-CLASS GROUPS:					
Gender:					
Male	8th Grade	2.4	2.4	1.9	1.2
	10th Grade	2.4	2.4	1.9	1.2
	12th Grade	2.4	2.4	1.9	1.2
Female	8th Grade	2.2	1.9	1.4	1.2
	10th Grade	2.2	1.9	1.4	1.2
	12th Grade	2.2	1.9	1.4	1.2
College Plans:					
None or under 4 yrs.	8th Grade	2.2	1.9	1.4	1.2
	10th Grade	2.2	1.9	1.4	1.2
	12th Grade	2.2	1.9	1.4	1.2
Complete 4 years	8th Grade	2.2	1.9	1.4	1.2
	10th Grade	2.2	1.9	1.4	1.2
	12th Grade	2.2	1.9	1.4	1.2
Parental Education:					
Any stratum	8th Grade	2.2	1.9	1.4	1.2
	10th Grade	2.2	1.9	1.4	1.2
	12th Grade	2.2	1.9	1.4	1.2
Racial/Ethnic Group:					
White	8th Grade	3.1	3.1	2.4	1.5
	10th Grade	3.1	3.1	2.4	1.5
	12th Grade	3.1	3.1	2.4	1.5
Black	8th Grade	1.9	1.9	1.8	1.5
	10th Grade	1.9	1.9	1.8	1.5
	12th Grade	1.9	1.9	1.8	1.5
Hispanic	8th Grade	2.0	1.8	1.6	1.5
	10th Grade	2.0	1.8	1.6	1.5
	12th Grade	2.0	1.8	1.6	1.5

SOURCE: The Monitoring the Future Study, the University of Michigan.

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TABLE C-2f

Design Effects for (a) a Prevalence or (b) a Change in Prevalence Across Nonadjacent Years

		AMPHETAMINES, INHALANTS (UNADJUSTED AND ADJUSTED)			
		Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:					
Total Sample: Any Region *(Northeast, North Central, South, and West)*; Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*					
	8th Grade	4.8	4.0	2.4	1.2
	10th Grade	4.8	4.0	2.4	1.2
	12th Grade	4.8	4.0	2.4	1.2
CROSS-CLASS GROUPS:					
Gender:					
Male	8th Grade	3.4	2.9	2.0	1.2
	10th Grade	3.4	2.9	2.0	1.2
	12th Grade	3.4	2.9	2.0	1.2
Female	8th Grade	3.5	3.4	2.1	1.2
	10th Grade	3.5	3.4	2.1	1.2
	12th Grade	3.5	3.4	2.1	1.2
College Plans:					
None or under 4 yrs.	8th Grade	2.1	1.8	1.5	1.2
	10th Grade	2.1	1.8	1.5	1.2
	12th Grade	2.1	1.8	1.5	1.2
Complete 4 years	8th Grade	4.0	3.5	2.3	1.2
	10th Grade	4.0	3.5	2.3	1.2
	12th Grade	4.0	3.5	2.3	1.2
Parental Education:					
Any stratum	8th Grade	2.3	2.1	1.6	1.2
	10th Grade	2.3	2.1	1.6	1.2
	12th Grade	2.3	2.1	1.6	1.2
Racial/Ethnic Group:					
White	8th Grade	4.1	4.0	2.3	1.5
	10th Grade	4.1	4.0	2.3	1.5
	12th Grade	4.1	4.0	2.3	1.5
Black	8th Grade	4.5	3.0	2.3	1.5
	10th Grade	4.5	3.0	2.3	1.5
	12th Grade	4.5	3.0	2.3	1.5
Hispanic	8th Grade	3.3	2.9	1.9	1.5
	10th Grade	3.3	2.9	1.9	1.5
	12th Grade	3.3	2.9	1.9	1.5

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-2g

Design Effects for (a) a Prevalence or (b) a Change in Prevalence Across Nonadjacent Years

		ALCOHOL, BEEN DRUNK		CIGARETTES, SMOKELESS TOBACCO	
		Lifetime, Past 12 Months, Past 30 Days, 5+/2 Weeks	Daily	Lifetime, Past 30 Days, Daily	Half-pack or More per Day
SEGREGATED GROUPS:					
Total Sample: Any Region *(Northeast, North Central, South, and West)*; Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*					
	8th Grade	5.2	1.4	5.4	3.9
	10th Grade	5.2	1.4	5.4	3.9
	12th Grade	5.2	1.4	5.4	3.9
CROSS-CLASS GROUPS:					
Gender:					
Male	8th Grade	2.9	1.4	2.8	2.2
	10th Grade	2.9	1.4	2.8	2.2
	12th Grade	2.9	1.4	2.8	2.2
Female	8th Grade	4.2	1.4	5.1	3.3
	10th Grade	4.2	1.4	5.1	3.3
	12th Grade	4.2	1.4	5.1	3.3
College Plans:					
None or under 4 yrs.	8th Grade	2.5	1.4	2.3	2.2
	10th Grade	2.5	1.4	2.3	2.2
	12th Grade	2.5	1.4	2.3	2.2
Complete 4 years	8th Grade	4.3	1.4	4.3	2.7
	10th Grade	4.3	1.4	4.3	2.7
	12th Grade	4.3	1.4	4.3	2.7
Parental Education:					
Any stratum	8th Grade	2.3	1.4	2.4	2.0
	10th Grade	2.3	1.4	2.4	2.0
	12th Grade	2.3	1.4	2.4	2.0
Racial/Ethnic Group:					
White	8th Grade	4.5	1.8	4.6	3.3
	10th Grade	4.5	1.8	4.6	3.3
	12th Grade	4.5	1.8	4.6	3.3
Black	8th Grade	5.6	1.8	3.0	1.8
	10th Grade	5.6	1.8	3.0	1.8
	12th Grade	5.6	1.8	3.0	1.8
Hispanic	8th Grade	3.8	1.8	3.4	2.4
	10th Grade	3.8	1.8	3.4	2.4
	12th Grade	3.8	1.8	3.4	2.4

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-3a
Design Effects for Subgroup Comparisons within Any Single Year

		INDEX OF ANY ILLICIT DRUGS OTHER THAN MARIJUANA			
		Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:					
Total Sample: Any Region *(Northeast, North Central, South, and West)*; Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*					
	8th Grade	5.6	4.6	3.3	1.3
	10th Grade	6.2	5.0	3.4	1.4
	12th Grade	7.2	6.4	4.6	2.0
CROSS-CLASS GROUPS:					
Gender:					
Male	8th Grade	2.8	2.5	2.2	1.3
	10th Grade	3.1	2.7	2.4	1.2
	12th Grade	3.2	2.9	2.4	1.7
Female	8th Grade	3.1	2.8	2.1	1.2
	10th Grade	3.3	2.9	2.2	1.1
	12th Grade	3.5	3.3	2.8	1.6
College Plans:					
None or under 4 yrs.	8th Grade	2.0	1.9	1.6	1.2
	10th Grade	2.2	2.1	1.8	1.4
	12th Grade	2.1	1.9	1.6	1.5
Complete 4 years	8th Grade	3.5	2.8	2.3	1.2
	10th Grade	4.1	3.3	2.5	1.1
	12th Grade	4.4	3.8	3.0	1.7
Parental Education:					
Any stratum	8th Grade	2.1	2.0	1.6	1.1
	10th Grade	2.2	2.0	1.7	1.2
	12th Grade	2.4	2.2	1.7	1.4
Racial/Ethnic Group:					
White	8th Grade	3.6	3.4	2.8	1.8
	10th Grade	4.2	3.8	2.9	1.9
	12th Grade	3.7	3.6	2.8	2.2
Black	8th Grade	2.6	2.5	1.8	1.5
	10th Grade	2.9	2.6	2.4	1.6
	12th Grade	3.4	3.1	2.9	2.0
Hispanic	8th Grade	3.4	2.7	2.5	1.8
	10th Grade	4.0	2.8	2.3	1.6
	12th Grade	5.7	4.9	2.9	2.4

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-3b
Design Effects for Subgroup Comparisons within Any Single Year

		INDICES OF ANY ILLICIT DRUG USE, ANY ILLICIT DRUG USE INCLUDING INHALANTS, AND MARIJUANA			
		Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:					
Total Sample: Any Region *(Northeast, North Central, South, and West);* Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*					
	8th Grade	5.8	4.8	4.3	1.6
	10th Grade	7.5	6.2	4.7	1.7
	12th Grade	10.7	10.2	8.1	3.6
CROSS-CLASS GROUPS:					
Gender:					
Male	8th Grade	2.4	2.4	2.4	1.5
	10th Grade	3.4	3.0	3.0	1.5
	12th Grade	3.8	3.4	3.0	2.7
Female	8th Grade	3.4	3.0	2.4	1.3
	10th Grade	4.0	3.4	2.7	1.1
	12th Grade	4.6	4.6	4.5	2.6
College Plans:					
None or under 4 yrs.	8th Grade	2.3	2.3	2.0	1.3
	10th Grade	2.8	2.8	2.7	2.0
	12th Grade	2.4	2.4	2.1	2.1
Complete 4 years	8th Grade	3.3	2.4	2.4	1.5
	10th Grade	5.1	4.0	3.2	1.1
	12th Grade	6.1	5.3	4.5	3.0
Parental Education:					
Any stratum	8th Grade	2.1	2.1	1.9	1.1
	10th Grade	2.5	2.3	2.2	1.4
	12th Grade	3.0	2.8	2.3	1.9
Racial/Ethnic Group:					
White	8th Grade	4.0	3.9	3.7	2.1
	10th Grade	5.9	4.9	4.0	2.2
	12th Grade	4.3	4.3	3.7	3.4
Black	8th Grade	2.9	2.2	1.6	1.4
	10th Grade	3.6	3.6	2.6	1.9
	12th Grade	5.0	5.0	5.0	2.5
Hispanic	8th Grade	2.6	2.6	2.2	2.1
	10th Grade	4.2	2.9	2.0	1.9
	12th Grade	9.4	9.2	4.5	3.2

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-3c
Design Effects for Subgroup Comparisons within Any Single Year

		HALLUCINOGENS (UNADJUSTED AND ADJUSTED), LSD, COCAINE, OTHER COCAINE			
		Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:					
Total Sample: Any Region *(Northeast, North Central, South, and West)*; Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*					
	8th Grade	6.2	4.9	3.2	1.2
	10th Grade	6.2	4.9	3.2	1.2
	12th Grade	6.2	4.9	3.2	1.2
CROSS-CLASS GROUPS:					
Gender:					
Male	8th Grade	3.2	2.8	2.4	1.1
	10th Grade	3.2	2.8	2.4	1.1
	12th Grade	3.2	2.8	2.4	1.1
Female	8th Grade	3.2	2.8	2.0	1.1
	10th Grade	3.2	2.8	2.0	1.1
	12th Grade	3.2	2.8	2.0	1.1
College Plans:					
None or under 4 yrs.	8th Grade	2.0	1.9	1.4	1.1
	10th Grade	2.0	1.9	1.4	1.1
	12th Grade	2.0	1.9	1.4	1.1
Complete 4 years	8th Grade	4.2	3.2	2.4	1.1
	10th Grade	4.2	3.2	2.4	1.1
	12th Grade	4.2	3.2	2.4	1.1
Parental Education:					
Any stratum	8th Grade	2.1	1.9	1.5	1.1
	10th Grade	2.1	1.9	1.5	1.1
	12th Grade	2.1	1.9	1.5	1.1
Racial/Ethnic Group:					
White	8th Grade	3.7	3.4	2.7	1.5
	10th Grade	3.7	3.4	2.7	1.5
	12th Grade	3.7	3.4	2.7	1.5
Black	8th Grade	1.8	1.8	1.6	1.5
	10th Grade	1.8	1.8	1.6	1.5
	12th Grade	1.8	1.8	1.6	1.5
Hispanic	8th Grade	5.1	3.1	2.4	1.5
	10th Grade	5.1	3.1	2.4	1.5
	12th Grade	5.1	3.1	2.4	1.5

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-3d

Design Effects for Subgroup Comparisons within Any Single Year

		HEROIN, CRACK COCAINE, STEROIDS, NITRITES, PCP, ICE, METHAQUALONE			
		Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:					
Total Sample: Any Region *(Northeast, North Central, South, and West);* Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*					
	8th Grade	2.0	1.5	1.5	1.2
	10th Grade	2.0	1.5	1.5	1.2
	12th Grade	2.0	1.5	1.5	1.2
CROSS-CLASS GROUPS:					
Gender:					
Male	8th Grade	1.3	1.3	1.3	1.1
	10th Grade	1.3	1.3	1.3	1.1
	12th Grade	1.3	1.3	1.3	1.1
Female	8th Grade	1.9	1.5	1.3	1.1
	10th Grade	1.9	1.5	1.3	1.1
	12th Grade	1.9	1.5	1.3	1.1
College Plans:					
None or under 4 yrs.	8th Grade	1.4	1.4	1.4	1.1
	10th Grade	1.4	1.4	1.4	1.1
	12th Grade	1.4	1.4	1.4	1.1
Complete 4 years	8th Grade	1.5	1.3	1.1	1.1
	10th Grade	1.5	1.3	1.1	1.1
	12th Grade	1.5	1.3	1.1	1.1
Parental Education:					
Any stratum	8th Grade	1.3	1.3	1.3	1.1
	10th Grade	1.3	1.3	1.3	1.1
	12th Grade	1.3	1.3	1.3	1.1
Racial/Ethnic Group:					
White	8th Grade	2.0	1.9	1.8	1.5
	10th Grade	2.0	1.9	1.8	1.5
	12th Grade	2.0	1.9	1.8	1.5
Black	8th Grade	2.0	2.0	2.0	1.5
	10th Grade	2.0	2.0	2.0	1.5
	12th Grade	2.0	2.0	2.0	1.5
Hispanic	8th Grade	2.1	2.0	1.9	1.5
	10th Grade	2.1	2.0	1.9	1.5
	12th Grade	2.1	2.0	1.9	1.5

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-3e
Design Effects for Subgroup Comparisons within Any Single Year

		OPIATES OTHER THAN HEROIN, BARBITURATES, TRANQUILIZERS, HALLUCINOGENS OTHER THAN LSD, SEDATIVES			
		Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:					
Total Sample: Any Region *(Northeast, North Central, South, and West)*; Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*					
	8th Grade	2.9	2.6	1.7	1.2
	10th Grade	2.9	2.6	1.7	1.2
	12th Grade	2.9	2.6	1.7	1.2
CROSS-CLASS GROUPS:					
Gender:					
Male	8th Grade	2.1	2.1	1.6	1.1
	10th Grade	2.1	2.1	1.6	1.1
	12th Grade	2.1	2.1	1.6	1.1
Female	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
College Plans:					
None or under 4 yrs.	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
Complete 4 years	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
Parental Education:					
Any stratum	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
Racial/Ethnic Group:					
White	8th Grade	2.5	2.5	2.1	1.5
	10th Grade	2.5	2.5	2.1	1.5
	12th Grade	2.5	2.5	2.1	1.5
Black	8th Grade	1.9	1.9	1.8	1.5
	10th Grade	1.9	1.9	1.8	1.5
	12th Grade	1.9	1.9	1.8	1.5
Hispanic	8th Grade	2.0	1.8	1.6	1.5
	10th Grade	2.0	1.8	1.6	1.5
	12th Grade	2.0	1.8	1.6	1.5

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-3f
Design Effects for Subgroup Comparisons within Any Single Year

		AMPHETAMINES, INHALANTS (UNADJUSTED AND ADJUSTED)			
		Lifetime	Past 12 Months	Past 30 Days	Daily
SEGREGATED GROUPS:					
Total Sample: Any Region *(Northeast, North Central, South, and West)*; Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*					
	8th Grade	4.8	4.0	2.4	1.2
	10th Grade	4.8	4.0	2.4	1.2
	12th Grade	4.8	4.0	2.4	1.2
CROSS-CLASS GROUPS:					
Gender:					
Male	8th Grade	2.7	2.4	1.9	1.1
	10th Grade	2.7	2.4	1.9	1.1
	12th Grade	2.7	2.4	1.9	1.1
Female	8th Grade	2.7	2.7	1.9	1.1
	10th Grade	2.7	2.7	1.9	1.1
	12th Grade	2.7	2.7	1.9	1.1
College Plans:					
None or under 4 yrs.	8th Grade	1.9	1.5	1.3	1.1
	10th Grade	1.9	1.5	1.3	1.1
	12th Grade	1.9	1.5	1.3	1.1
Complete 4 years	8th Grade	3.0	2.7	2.0	1.1
	10th Grade	3.0	2.7	2.0	1.1
	12th Grade	3.0	2.7	2.0	1.1
Parental Education:					
Any stratum	8th Grade	2.0	1.9	1.4	1.1
	10th Grade	2.0	1.9	1.4	1.1
	12th Grade	2.0	1.9	1.4	1.1
Racial/Ethnic Group:					
White	8th Grade	3.1	3.0	2.0	1.5
	10th Grade	3.1	3.0	2.0	1.5
	12th Grade	3.1	3.0	2.0	1.5
Black	8th Grade	3.3	2.4	2.0	1.5
	10th Grade	3.3	2.4	2.0	1.5
	12th Grade	3.3	2.4	2.0	1.5
Hispanic	8th Grade	2.6	2.4	1.9	1.5
	10th Grade	2.6	2.4	1.9	1.5
	12th Grade	2.6	2.4	1.9	1.5

SOURCE: The Monitoring the Future Study, the University of Michigan.

TABLE C-3g

Design Effects for Subgroup Comparisons within Any Single Year

		ALCOHOL, BEEN DRUNK		CIGARETTES, SMOKELESS TOBACCO	
		Lifetime, Past 12 Months, Past 30 Days, 5+/2 Weeks	Daily	Lifetime, Past 30 Days, Daily	Half-pack or More per Day
SEGREGATED GROUPS:					
Total Sample: Any Region *(Northeast, North Central, South, and West)*; Any Population Density Stratum *(Large MSA, Other MSA, and Non-MSA)*					
	8th Grade	5.2	1.4	5.4	3.9
	10th Grade	5.2	1.4	5.4	3.9
	12th Grade	5.2	1.4	5.4	3.9
CROSS-CLASS GROUPS:					
Gender:					
Male	8th Grade	2.4	1.3	2.3	2.0
	10th Grade	2.4	1.3	2.3	2.0
	12th Grade	2.4	1.3	2.3	2.0
Female	8th Grade	3.1	1.3	3.6	2.6
	10th Grade	3.1	1.3	3.6	2.6
	12th Grade	3.1	1.3	3.6	2.6
College Plans:					
None or under 4 yrs.	8th Grade	2.1	1.3	2.0	2.0
	10th Grade	2.1	1.3	2.0	2.0
	12th Grade	2.1	1.3	2.0	2.0
Complete 4 years	8th Grade	3.2	1.3	3.2	2.3
	10th Grade	3.2	1.3	3.2	2.3
	12th Grade	3.2	1.3	3.2	2.3
Parental Education:					
Any stratum	8th Grade	2.0	1.3	2.1	1.9
	10th Grade	2.0	1.3	2.1	1.9
	12th Grade	2.0	1.3	2.1	1.9
Racial/Ethnic Group:					
White	8th Grade	3.3	1.8	3.4	2.6
	10th Grade	3.3	1.8	3.4	2.6
	12th Grade	3.3	1.8	3.4	2.6
Black	8th Grade	4.0	1.8	2.4	1.8
	10th Grade	4.0	1.8	2.4	1.8
	12th Grade	4.0	1.8	2.4	1.8
Hispanic	8th Grade	2.9	1.8	2.7	2.1
	10th Grade	2.9	1.8	2.7	2.1
	12th Grade	2.9	1.8	2.7	2.1

SOURCE: The Monitoring the Future Study, the University of Michigan.

Appendix D

SUPPLEMENTAL TABLES FOR SECONDARY SCHOOL STUDENTS: TRENDS BY SUBGROUP

Trend data for the population subgroups discussed in this volume (defined by sex, college plans, region, community size, level of parental education, and racial/ethnic distinctions) are presented below for the major classes of licit and illicit drugs. Because of the sheer quantity of information such trend tables generate, we have selected the prevalence periods which seem most useful for understanding differences by subgroup. For most drugs, the trends are given only for annual prevalence. Other prevalence rates are provided for alcohol, cigarettes, and smokeless tobacco.

The subgroups are the standard ones used throughout this volume and are operationally defined in Appendix B. The reader should note that *two-year moving averages* are given for the three racial/ethnic groups described, in order to damp down random fluctuations in the trends for the minority groups. A footnote in each table describes the procedure.

For nearly all drugs there is one table presenting the subgroup trends for eighth and tenth grade students and a second table giving the longer-term trends for twelfth grade students. However, for two of the drugs—barbiturates and narcotics other than heroin—the eighth and tenth grade data have been omitted, as they are throughout the volume, because we are less certain about the validity of the answers provided by the younger students. Specifically, we believe that they often fail to omit substances which should be omitted (i.e., non-prescription substances).

Sample sizes should be taken into account when interpreting the importance of any changes observed, of course. They are provided in the last two pages of the appendix.

TABLE D-1
Marijuana: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twleve months											
	8th Grade						10th Grade					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Approx. N =	17500	18600	18300	17300	17500		14800	14800	15300	15800	17000	
Total	6.2	7.2	9.2	13.0	15.8	+2.8sss	16.5	15.2	19.2	25.2	28.7	+3.5sss
Sex:												
Male	7.3	7.4	10.5	15.1	17.7	+2.6ss	17.7	16.3	21.2	28.2	30.6	+2.4
Female	5.1	6.9	8.0	10.9	13.7	+2.8ss	15.1	13.9	16.9	21.9	26.5	+4.6sss
College Plans:												
None or under 4 yrs.	15.8	17.5	22.4	27.7	30.3	+2.6	26.9	25.1	31.5	37.3	41.8	+4.5
Complete 4 yrs.	4.6	5.5	7.3	11.0	13.8	+2.8sss	14.2	13.0	16.5	22.4	26.4	+4.0sss
Region:												
Northeast	5.0	5.8	6.2	12.1	13.0	+0.9	17.1	14.9	22.4	25.6	28.8	+3.2
North Central	5.9	6.0	8.0	12.0	17.5	+5.5sss	15.8	14.8	17.4	23.4	26.6	+3.2
South	6.1	7.3	9.0	11.4	14.7	+3.3ss	14.5	12.5	16.4	23.8	28.4	+4.6s
West	7.8	10.3	14.8	18.1	18.4	+0.3	19.4	20.4	24.0	30.0	32.2	+2.2
Population Density:												
Large MSA	5.2	6.7	8.0	13.1	15.6	+2.5s	16.5	15.1	19.0	26.3	27.8	+1.5
Other MSA	7.2	8.3	10.9	15.7	17.2	+1.5	17.3	15.9	19.8	28.2	31.2	+3.0
Non-MSA	5.3	5.7	7.2	8.0	13.7	+5.7sss	14.9	13.9	18.2	18.5	24.8	+6.3ss
Parental Education:[a]												
1.0-2.0 (Low)	13.2	12.7	13.6	18.7	23.0	+4.3	20.3	18.9	22.4	25.8	32.0	+6.2s
2.5-3.0	7.0	7.7	10.7	14.5	17.9	+3.4ss	17.8	16.0	19.7	26.3	31.8	+5.5sss
3.5-4.0	6.2	7.0	9.7	13.2	17.2	+4.0sss	16.2	15.1	19.3	25.6	30.0	+4.4ss
4.5-5.0	3.7	5.4	7.4	10.9	12.7	+1.8	14.9	14.1	17.6	23.8	27.0	+3.2s
5.5-6.0 (High)	4.6	5.2	6.4	11.0	13.0	+2.0	15.9	13.7	18.5	23.3	23.4	+0.1
Race (2-year average):[b]												
White	—	6.4	7.8	10.0	13.5	+3.5sss	—	17.0	18.0	22.6	27.7	+5.1sss
Black	—	4.1	5.7	8.9	11.9	+3.0s	—	7.6	8.7	15.3	20.9	+5.6s
Hispanic	—	11.9	13.9	18.1	20.4	+2.3	—	18.9	21.3	25.1	29.2	+4.1

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
'—' indicates data not available.
See Table D-39 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-2
Marijuana: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

Percent who used in last twelve months

	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	40.0	44.5	47.6	50.2	50.8	48.8	46.1	44.3	42.3	40.0	40.6	38.8	36.3	33.1	29.6	27.0	23.9	21.9	26.0	30.7	34.7	+4.0ss
Sex:																						
Male	45.8	50.6	53.2	55.9	55.8	53.4	49.2	47.2	45.7	43.2	43.1	41.2	38.6	35.8	32.8	29.4	27.2	24.4	29.0	35.1	38.1	+3.0s
Female	34.9	37.8	42.0	44.3	45.7	44.1	42.5	40.8	38.4	36.0	37.8	36.0	33.8	30.3	26.3	24.2	20.1	18.9	22.4	26.4	30.6	+4.2ss
College Plans:																						
None or under 4 yrs.	—	46.8	50.7	51.6	53.1	51.7	49.7	48.2	46.0	44.2	44.0	42.7	40.6	36.2	34.4	31.1	27.6	27.5	29.1	34.4	39.0	+4.6s
Complete 4 yrs.	—	40.7	43.4	47.1	47.3	45.9	42.6	40.6	38.3	35.9	37.5	36.1	34.0	31.3	27.3	24.7	22.0	19.4	24.4	29.1	32.6	+3.5s
Region:																						
Northeast	47.4	52.7	53.5	59.2	60.6	55.5	53.2	50.9	49.3	49.6	48.2	44.6	41.2	36.7	31.3	32.2	28.2	23.9	31.2	36.0	37.7	+1.7
North Central	40.1	44.0	48.1	51.6	52.2	48.9	46.8	45.6	42.0	36.4	40.8	40.2	37.4	34.3	33.0	28.7	26.1	22.7	26.0	30.5	36.9	+6.4s
South	32.4	37.9	42.5	42.7	41.2	42.0	38.0	36.7	36.1	35.6	31.0	31.7	30.2	28.7	25.0	21.4	18.1	18.1	23.2	28.7	31.8	+3.1
West	44.1	45.8	46.8	49.1	51.9	51.7	49.6	45.5	44.8	43.2	46.2	41.2	39.6	35.6	32.3	28.3	26.8	26.1	26.4	30.0	33.8	+3.8
Population Density:																						
Large MSA	50.4	51.3	53.2	57.2	58.7	56.3	51.4	50.4	47.0	44.2	44.4	42.6	39.3	34.3	27.8	27.7	24.3	22.6	29.1	32.0	37.5	+5.5s
Other MSA	40.3	44.2	48.9	50.8	51.9	49.8	46.4	44.8	44.0	41.0	40.7	39.4	36.9	34.7	30.3	28.3	27.5	22.1	26.2	32.7	34.9	+2.2
Non-MSA	32.9	39.8	41.2	43.3	43.3	41.9	41.6	38.5	36.5	35.3	37.3	34.7	32.2	29.0	30.0	23.5	17.5	21.0	23.1	25.8	31.0	+5.2
Parental Education:[a]																						
1.0-2.0 (Low)	35.2	38.9	41.0	42.5	46.0	43.7	41.8	38.9	39.7	35.7	37.1	33.4	30.7	30.7	23.3	21.0	22.4	21.2	23.0	26.3	30.9	+4.6
2.5-3.0	39.2	46.1	48.2	50.3	50.0	49.0	45.3	44.5	42.2	40.1	40.6	38.8	36.3	31.1	29.6	26.9	22.5	21.1	24.1	29.7	33.8	+4.1s
3.5-4.0	38.5	44.9	49.5	51.4	52.7	49.8	47.0	46.5	42.2	41.4	41.0	40.1	36.8	33.4	31.4	27.6	24.0	22.7	26.6	31.5	34.2	+2.7
4.5-5.0	40.6	46.8	49.3	53.2	53.7	50.5	47.6	45.9	43.5	39.6	43.2	39.9	37.5	35.1	29.7	28.5	23.8	20.8	27.2	32.0	35.0	+3.0
5.5-6.0 (High)	38.7	47.5	48.6	55.2	51.2	52.0	48.5	45.7	43.7	39.9	37.9	38.9	38.6	35.9	30.7	29.4	28.2	22.6	28.0	32.3	37.5	+5.2s
Race (2-year average):[b]																						
White	—	—	46.8	50.1	51.8	51.2	49.1	47.1	44.6	42.0	41.6	41.4	39.7	37.6	34.5	31.6	28.2	24.9	25.9	30.2	34.2	+4.0ss
Black	—	—	37.9	39.6	38.4	37.5	36.1	35.5	37.4	36.4	33.4	30.6	25.7	21.2	17.8	13.7	11.4	11.5	14.2	20.7	26.8	+6.1
Hispanic	—	—	45.8	43.4	42.1	44.1	41.2	38.8	38.3	38.8	37.8	36.7	33.3	29.6	25.0	21.6	23.6	24.7	23.5	25.7	29.7	+4.0

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
See Table D-40 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-3
Inhalants: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months											
	8th Grade						10th Grade					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Approx. N =	17500	18600	18300	17300	17500		14800	14800	15300	15800	17000	
Total	9.0	9.5	11.0	11.7	12.8	+1.1	7.1	7.5	8.4	9.1	9.6	+0.5
Sex:												
Male	9.0	9.2	10.4	11.2	11.5	+0.3	7.4	7.6	9.1	9.7	10.3	+0.6
Female	9.0	9.8	11.9	12.2	14.0	+1.8s	6.6	7.5	7.7	8.6	8.9	+0.3
College Plans:												
None or under 4 yrs.	15.0	15.6	17.7	18.3	19.6	+1.3	12.0	12.4	14.0	15.1	14.6	-0.5
Complete 4 yrs.	8.1	8.8	10.2	10.9	11.9	+1.0	5.9	6.4	7.3	7.8	8.7	+0.9
Region:												
Northeast	8.0	8.6	11.3	12.0	13.1	+1.1	7.2	7.8	10.6	9.8	10.4	+0.6
North Central	9.8	10.5	9.9	10.3	13.8	+3.5ss	7.5	8.0	8.3	8.4	10.4	+2.0
South	8.9	9.1	10.0	11.3	12.1	+0.8	7.2	6.6	7.3	9.0	9.4	+0.4
West	8.8	9.8	14.2	14.0	12.4	-1.6	6.2	8.0	8.4	9.9	8.1	-1.8
Population Density:												
Large MSA	9.9	9.1	10.8	11.6	11.7	+0.1	7.7	7.8	8.5	7.9	8.7	+0.8
Other MSA	8.5	10.3	12.3	13.1	13.7	+0.6	7.1	7.4	8.4	9.8	9.7	-0.1
Non-MSA	9.1	8.6	8.5	9.3	12.3	+3.0s	6.5	7.5	8.6	9.1	10.5	+1.4
Parental Education:[a]												
1.0-2.0 (Low)	12.0	11.4	11.5	12.4	13.0	+0.6	7.0	8.2	10.2	8.7	9.4	+0.7
2.5-3.0	9.5	9.9	10.9	12.1	13.9	+1.8	8.0	7.9	9.1	9.5	11.0	+1.5
3.5-4.0	8.9	10.0	11.5	12.3	14.7	+2.4s	7.5	8.3	8.3	9.6	10.2	+0.6
4.5-5.0	8.0	8.4	10.6	11.0	12.3	+1.3	6.4	6.5	7.2	8.7	9.4	+0.7
5.5-6.0 (High)	8.4	10.3	12.6	12.2	11.6	-0.6	6.6	6.7	8.2	8.2	7.0	-1.2
Race (2-year average):[b]												
White	—	10.1	11.3	12.4	13.8	+1.4	—	8.3	8.8	9.6	10.6	+1.0
Black	—	4.4	4.6	5.3	5.0	-0.3	—	3.6	3.7	3.3	2.8	-0.5
Hispanic	—	10.4	11.5	12.5	13.3	+0.8	—	6.4	8.3	9.0	8.5	-0.5

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
'—' indicates data not available.
See Table D-39 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-4
Inhalants:[a] Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	—	3.0	3.7	4.1	5.4	4.6	4.1	4.5	4.3	5.1	5.7	6.1	6.9	6.5	5.9	6.9	6.6	6.2	7.0	7.7	8.0	+0.3
Adjusted[b]	—	—	—	—	8.9	7.9	6.1	6.6	6.2	7.2	7.5	8.9	8.1	7.1	6.9	7.5	6.9	6.4	7.4	8.2	8.4	+0.2
Sex:																						
Male	—	3.8	5.1	5.6	6.7	5.9	5.1	5.8	5.8	6.5	6.9	7.8	8.3	8.2	7.8	8.8	8.2	8.0	9.2	9.6	9.9	+0.3
Female	—	2.0	2.4	2.8	4.2	3.5	3.2	3.1	2.8	3.8	4.5	4.7	5.6	4.9	4.0	4.9	5.0	4.5	4.8	6.0	6.2	+0.2
College Plans:																						
None or under 4 yrs.	—	3.6	4.7	5.0	6.3	5.0	4.3	4.9	4.7	5.8	5.8	7.7	8.0	8.1	7.1	7.8	7.7	7.7	8.0	9.0	9.7	+0.7
Complete 4 yrs.	—	2.2	2.9	3.4	4.5	4.3	4.0	4.1	3.9	4.7	5.7	5.2	6.4	6.0	5.4	6.4	6.3	5.7	6.7	7.4	7.4	0.0
Region:																						
Northeast	—	3.2	4.1	4.4	6.4	6.0	5.2	6.2	5.0	6.1	8.0	5.6	6.7	6.0	6.3	7.4	6.7	6.0	8.9	10.3	10.3	0.0
North Central	—	2.6	4.2	4.8	5.9	4.6	3.8	3.6	4.5	5.0	5.8	6.7	8.6	7.2	6.7	8.0	8.6	7.4	6.3	9.5	8.6	-0.9
South	—	3.8	3.3	3.6	4.3	3.4	3.2	3.8	3.8	4.6	4.2	5.7	6.1	6.8	5.5	6.4	5.0	4.8	6.5	6.2	7.0	+0.8
West	—	1.7	3.0	3.6	4.9	4.9	4.7	4.4	4.3	5.3	5.4	6.6	6.2	5.6	4.8	5.7	6.8	7.5	7.0	5.7	6.7	+1.0
Population Density:																						
Large MSA	—	2.9	3.4	3.4	5.1	5.7	4.7	5.5	4.8	5.3	5.9	5.2	6.0	6.5	5.1	6.7	5.2	6.0	7.4	7.6	8.5	+0.9
Other MSA	—	2.6	3.6	3.7	4.8	4.2	4.0	3.9	4.4	5.0	5.9	6.3	6.9	6.0	5.8	6.8	7.8	6.6	7.3	7.7	7.8	+0.1
Non-MSA	—	3.4	4.2	5.3	6.2	4.4	3.7	4.4	3.9	5.2	5.4	6.6	7.8	7.5	6.8	7.4	5.8	5.6	6.0	7.6	7.8	+0.2
Parental Education:[c]																						
1.0-2.0 (Low)	—	3.7	3.9	4.5	5.2	3.6	3.6	3.2	3.1	4.5	4.2	4.9	4.6	5.3	5.9	5.0	6.1	4.2	4.3	5.3	7.5	+2.2
2.5-3.0	—	3.1	4.1	4.0	5.0	4.8	4.0	4.8	4.0	5.2	5.6	6.1	6.8	6.3	5.5	6.9	6.6	6.7	6.0	7.8	8.0	+0.2
3.5-4.0	—	3.1	3.4	4.1	5.1	4.7	4.0	4.6	4.9	5.6	5.5	6.2	7.1	5.8	6.1	7.2	6.1	6.3	7.7	7.1	6.7	-0.4
4.5-5.0	—	2.7	3.0	3.9	5.8	4.3	4.4	4.4	5.2	6.0	7.0	6.9	7.2	7.0	5.7	7.4	7.4	6.3	7.6	8.9	8.9	0.0
5.5-6.0 (High)	—	3.7	4.2	5.0	7.2	5.8	4.9	6.0	4.7	5.6	6.8	6.4	8.7	9.1	6.8	7.6	7.1	6.7	9.4	9.7	9.7	0.0
Race (2-year average):[d]																						
White	—	—	3.6	4.3	5.1	5.3	4.7	4.7	4.8	5.1	5.9	6.5	7.3	7.6	7.0	7.2	7.6	7.2	7.6	8.6	9.1	+0.5
Black	—	—	1.5	1.3	2.1	2.2	2.1	1.9	1.8	2.3	2.0	2.1	3.0	3.1	2.2	2.1	2.7	2.5	2.2	2.4	2.6	+0.2
Hispanic	—	—	2.7	3.0	2.9	2.9	3.5	4.1	3.4	4.6	6.5	5.5	4.6	4.1	4.7	4.8	5.4	6.0	5.7	5.5	5.8	+0.3

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
See Table D-40 for the number of subgroup cases.
See Appendix B for definition of variables in table.
Data based on four of five forms in 1976-88; N is four-fifths of N indicated. Data based on five of six forms in 1989-95; N is five-sixths of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] All data are unadjusted for underreporting of amyl and butyl nitrites, except where otherwise noted.

[b] Adjusted for underreporting of amyl and butyl nitrites. See text for details.

[c] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[d] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-5
Hallucinogens: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months											
	8th Grade						10th Grade					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Approx. N =	17500	18600	18300	17300	17500		14800	14800	15300	15800	17000	
Total	1.9	2.5	2.6	2.7	3.6	+0.9s	4.0	4.3	4.7	5.8	7.2	+1.4ss
Sex:												
Male	2.2	2.6	2.8	3.0	4.0	+1.0s	4.4	4.7	5.7	6.6	8.1	+1.5s
Female	1.6	2.3	2.3	2.4	3.3	+0.9s	3.6	3.8	3.6	4.8	6.1	+1.3s
College Plans:												
None or under 4 yrs.	5.1	7.2	7.1	6.7	9.6	+2.9s	7.5	7.5	9.1	10.4	12.5	+2.1
Complete 4 yrs.	1.4	1.8	1.9	2.2	2.9	+0.7s	3.3	3.6	3.7	4.8	6.2	+1.4ss
Region:												
Northeast	1.5	1.6	1.9	2.9	3.4	+0.5	4.0	2.7	4.7	5.8	5.6	-0.2
North Central	1.6	2.4	1.7	2.2	3.8	+1.6s	3.4	4.3	4.6	5.7	7.8	+2.1s
South	1.9	2.7	2.8	2.4	3.3	+0.9	3.6	3.9	3.6	5.1	7.3	+2.2s
West	2.8	3.2	4.2	3.9	4.2	+0.3	5.2	6.5	6.7	7.1	7.6	+0.5
Population Density:												
Large MSA	2.1	2.2	2.2	3.1	4.0	+0.9	4.1	4.6	4.9	6.0	7.1	+1.1
Other MSA	2.0	3.0	3.1	3.1	3.8	+0.7	4.8	4.4	4.9	6.4	8.0	+1.6s
Non-MSA	1.5	2.0	1.8	1.6	3.0	+1.4s	2.5	3.7	4.1	4.4	5.5	+1.1
Parental Education:[a]												
1.0-2.0 (Low)	3.9	3.7	3.5	3.1	5.1	+2.0	3.7	4.9	6.0	6.1	7.7	+1.6
2.5-3.0	2.2	2.3	2.7	2.8	3.8	+1.0	4.3	4.2	4.5	5.5	7.6	+2.1ss
3.5-4.0	1.6	2.5	2.8	2.8	4.1	+1.3s	3.7	4.6	4.8	5.9	7.6	+1.7s
4.5-5.0	1.6	2.0	2.3	2.8	3.2	+0.4	4.1	3.8	4.5	5.5	6.6	+1.1
5.5-6.0 (High)	1.4	2.4	2.0	2.5	3.2	+0.7	4.6	4.2	4.6	6.2	6.5	+0.3
Race (2-year average):[b]												
White	—	2.2	2.6	2.8	3.6	+0.8	—	4.9	5.1	5.6	7.1	+1.5s
Black	—	0.7	0.7	0.6	0.6	0.0	—	0.2	0.6	1.1	1.2	+0.1
Hispanic	—	3.8	4.1	4.0	4.0	0.0	—	3.6	4.5	5.7	6.3	+0.6

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
'—' indicates data not available.
See Table D-39 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-6
Hallucinogens:[a] Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

Percent who used in last twelve months

	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	11.2	9.4	8.8	9.6	9.9	9.3	9.0	8.1	7.3	6.5	6.3	6.0	6.4	5.5	5.6	5.9	5.8	5.9	7.4	7.6	9.3	+1.7ss
Adjusted[b]	—	—	—	—	11.8	10.4	10.1	9.0	8.3	7.3	7.6	7.6	6.7	5.8	6.2	6.0	6.1	6.2	7.8	7.8	9.7	+1.9ss
Sex:																						
Male	13.7	11.6	10.8	11.6	11.8	11.7	10.9	9.6	8.6	7.9	8.1	7.2	7.5	7.2	7.4	7.7	7.5	7.1	8.9	9.2	11.9	+2.7ss
Female	9.0	6.9	6.5	7.3	7.6	6.7	6.8	6.1	5.5	4.7	4.4	4.7	5.2	3.7	3.6	3.8	3.9	4.7	5.6	5.8	6.3	+0.5
College Plans:																						
None or under 4 yrs.	—	11.2	10.6	11.0	11.3	11.2	10.7	9.5	8.9	8.3	7.7	7.4	7.9	6.4	7.1	6.6	7.0	7.8	8.1	8.4	11.9	+3.5ss
Complete 4 yrs.	—	6.9	6.4	7.3	7.5	7.1	7.4	6.2	5.4	4.7	5.0	4.7	5.4	4.7	4.8	5.3	5.3	5.1	6.9	7.0	8.2	+1.2
Region:																						
Northeast	13.2	10.9	10.6	13.0	12.9	12.2	12.9	11.4	8.7	11.3	9.9	7.9	7.5	5.8	5.6	6.6	7.0	7.1	9.0	9.0	10.1	+1.1
North Central	13.0	10.3	9.7	10.7	11.1	11.3	10.3	9.1	8.9	6.0	6.8	6.6	6.9	5.3	6.6	5.7	6.5	5.9	6.8	8.1	9.2	+1.1
South	8.5	7.4	6.8	6.3	5.7	5.4	4.1	4.6	5.2	3.9	3.2	3.3	4.8	5.2	4.9	5.0	3.7	4.7	5.9	6.7	8.8	+2.1s
West	10.2	9.3	8.2	9.6	11.0	9.2	10.4	7.8	6.3	7.0	6.3	7.2	7.4	6.0	5.5	6.9	7.3	7.3	9.2	7.1	9.6	+2.5
Population Density:																						
Large MSA	13.9	11.1	9.9	11.9	12.3	11.6	12.0	10.9	9.2	8.8	8.3	7.6	7.9	6.5	5.4	5.7	5.1	6.2	7.3	8.1	11.0	+2.9ss
Other MSA	12.1	9.8	9.1	9.3	10.5	9.8	9.0	7.6	7.6	6.3	6.1	5.9	6.3	6.0	5.9	6.6	7.7	6.0	8.1	8.6	9.5	+0.9
Non-MSA	8.5	7.7	7.5	8.3	7.1	7.1	6.8	6.5	5.3	5.0	5.0	4.9	5.3	3.5	5.0	4.5	3.3	5.5	6.3	5.1	7.0	+1.9
Parental Education:[c]																						
1.0-2.0 (Low)	8.9	7.4	6.8	7.7	7.1	8.0	6.7	6.5	6.5	5.4	4.8	5.4	5.8	4.9	4.2	3.8	4.9	3.6	4.9	5.0	7.2	+2.2
2.5-3.0	10.2	10.0	9.1	9.6	9.6	9.5	8.9	8.0	6.8	6.7	6.4	6.0	6.2	4.2	4.9	4.6	4.9	5.6	5.9	7.0	8.7	+1.7
3.5-4.0	10.9	9.8	9.2	9.7	9.7	9.2	9.2	8.6	7.7	6.3	7.2	6.3	6.0	4.8	5.6	6.5	6.2	6.0	7.5	8.0	9.5	+1.5
4.5-5.0	11.1	10.1	8.8	10.2	10.9	9.1	9.4	7.8	7.0	5.9	6.2	5.5	6.8	6.7	6.6	6.8	6.1	6.2	8.9	7.7	9.6	+1.9s
5.5-6.0 (High)	8.9	9.4	9.5	10.2	11.7	9.9	10.6	9.0	7.0	7.6	4.3	5.9	7.2	7.2	7.0	8.2	7.3	7.4	8.9	9.0	9.5	+0.5
Race (2-year average):[d]																						
White	—	—	9.8	9.9	10.5	10.3	10.0	9.3	8.3	7.5	7.0	6.7	6.8	6.8	6.4	6.7	6.8	6.9	7.9	8.6	9.5	+0.9
Black	—	—	2.4	2.3	2.0	1.9	1.9	1.8	2.2	1.7	1.2	1.6	1.5	1.0	0.9	0.8	0.6	0.7	0.8	1.2	1.2	0.0
Hispanic	—	—	7.9	7.2	7.0	7.1	7.0	7.7	6.6	5.2	5.7	5.7	5.0	4.0	3.2	3.3	4.4	4.6	5.3	5.8	7.1	+1.3

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
See Table D-40 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] All data are unadjusted for underreporting of PCP, unless otherwise indicated.

[b] Adjusted for underreporting of PCP. See text for details.

[c] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[d] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

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TABLE D-7
LSD: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

Percent who used in last twelve months

	8th Grade						10th Grade					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Approx. N =	17500	18600	18300	17300	17500		14800	14800	15300	15800	17000	
Total	1.7	2.1	2.3	2.4	3.2	+0.8s	3.7	4.0	4.2	5.2	6.5	+1.3ss
Sex:												
Male	2.0	2.1	2.5	2.6	3.4	+0.8	3.9	4.3	5.1	5.9	7.4	+1.5s
Females	1.3	2.0	2.1	2.1	2.9	+0.8s	3.4	3.6	3.2	4.3	5.5	+1.2s
College Plans:												
None or under 4 yrs.	4.5	6.4	6.4	6.2	8.5	+2.3	6.8	7.0	8.4	9.4	11.1	+1.7
Complete 4 yrs.	1.2	1.5	1.6	1.8	2.5	+0.7s	3.0	3.4	3.3	4.2	5.6	+1.4ss
Region:												
Northeast	1.3	1.4	1.8	2.6	2.9	+0.3	3.6	2.6	3.8	5.1	4.7	-0.4
North Central	1.4	1.8	1.4	1.7	3.5	+1.8ss	3.2	4.1	4.4	5.2	7.3	+2.1s
South	1.8	2.4	2.4	2.1	2.8	+0.7	3.3	3.7	3.2	4.6	6.8	+2.2s
West	2.2	2.9	3.7	3.3	3.8	+0.5	4.8	5.9	6.1	6.3	6.5	+0.2
Population Density:												
Large MSA	1.9	2.0	2.0	2.7	3.6	+0.9	3.8	4.4	4.4	5.4	6.6	+1.2
Other MSA	1.7	2.5	2.8	2.8	3.3	+0.5	4.4	4.1	4.4	5.9	7.1	+1.2
Non-MSA	1.3	1.6	1.4	1.3	2.4	+1.1	2.3	3.5	3.7	3.7	5.0	+1.3
Parental Education:[a]												
1.0-2.0 (Low)	3.5	3.1	3.1	2.8	4.6	+1.8	3.1	4.4	5.5	5.5	6.9	+1.4
2.5-3.0	1.8	2.1	2.3	2.6	3.1	+0.5	4.0	4.2	4.2	5.1	6.9	+1.8s
3.5-4.0	1.4	2.0	2.4	2.4	3.6	+1.2s	3.4	4.1	4.2	5.3	6.9	+1.6s
4.5-5.0	1.4	1.5	2.1	2.1	2.6	+0.5	3.8	3.6	3.9	4.8	6.0	+1.2
5.5-6.0 (High)	1.3	2.0	2.0	2.1	2.9	+0.8	4.2	3.9	3.9	5.4	5.9	+0.5
Race (2-year average):[b]												
White	—	1.9	2.3	2.5	3.1	+0.6	—	4.6	4.6	5.0	6.4	+1.4s
Black	—	0.5	0.4	0.5	0.5	0.0	—	0.2	0.5	0.9	1.0	+0.1
Hispanic	—	3.3	3.7	3.6	3.3	-0.3	—	3.2	4.1	5.0	5.7	+0.7

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
'—' indicates data not available.
See Table D-39 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-8
LSD: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	7.2	6.4	5.5	6.3	6.6	6.5	6.5	6.1	5.4	4.7	4.4	4.5	5.2	4.8	4.9	5.4	5.2	5.6	6.8	6.9	8.4	+1.5ss
Sex:																						
Male	9.6	7.9	7.1	7.8	8.0	8.1	8.0	7.4	6.7	5.8	5.9	5.5	6.4	6.5	6.5	7.1	6.8	6.7	8.4	8.4	10.7	+2.3ss
Female	5.6	4.6	3.9	4.5	4.8	4.8	4.7	4.3	3.8	3.1	2.8	3.4	3.9	3.0	3.2	3.6	3.4	4.4	5.1	5.3	5.8	+0.5
College Plans:																						
None or under 4 yrs.	—	7.5	6.7	7.2	8.0	8.2	8.0	7.5	6.9	6.1	5.6	5.9	6.6	5.7	6.5	6.2	6.4	7.6	7.5	7.7	11.2	+3.5sss
Complete 4 yrs.	—	4.7	4.0	4.6	4.5	4.7	5.0	4.3	3.8	3.1	3.4	3.3	4.3	4.1	4.2	4.8	4.7	4.8	6.4	6.3	7.3	+1.0
Region:																						
Northeast	8.5	8.0	7.2	8.0	7.9	6.8	9.0	8.0	5.6	7.0	5.4	5.1	5.3	4.7	5.1	5.9	6.1	6.6	8.6	8.2	8.8	+0.6
North Central	8.7	7.0	6.6	7.9	7.9	8.5	7.8	7.3	7.0	4.4	5.3	5.3	5.7	4.7	6.0	5.3	5.9	5.5	6.3	7.3	8.3	+1.0
South	5.4	4.7	3.7	3.7	3.4	4.3	3.4	3.9	4.4	3.5	2.8	2.6	4.2	4.7	4.2	4.7	3.4	4.4	5.5	6.3	8.1	+1.8
West	7.6	5.9	5.0	5.8	8.3	6.5	6.3	4.8	4.2	4.5	4.6	5.9	6.2	5.2	4.4	6.4	6.5	7.0	8.5	6.2	8.5	+2.3
Population Density:																						
Large MSA	9.4	7.9	6.4	7.2	7.6	7.3	8.0	7.3	5.7	4.7	4.1	4.4	5.6	5.2	4.6	5.2	4.3	5.7	6.7	7.3	9.7	+2.4s
Other MSA	7.4	6.8	5.6	6.1	7.3	6.8	6.9	6.3	6.0	4.9	4.8	4.9	5.4	5.6	5.3	6.1	7.0	5.8	7.6	7.9	8.7	+0.8
Non-MSA	5.7	4.8	4.8	5.8	4.9	5.6	4.9	4.8	4.4	4.2	4.1	4.0	4.4	3.1	4.3	4.2	3.0	5.1	5.6	4.6	6.5	+1.9
Parental Education:[a]																						
1.0-2.0 (Low)	6.1	4.8	4.5	5.0	4.5	5.2	4.8	5.0	4.9	4.1	3.0	3.9	4.4	4.1	3.6	3.4	4.3	3.3	4.6	4.4	6.6	+2.2
2.5-3.0	6.5	6.8	5.8	6.1	6.3	6.8	6.5	6.1	5.1	4.8	4.5	4.6	4.9	3.8	4.3	4.4	4.4	5.2	5.6	6.5	8.1	+1.6
3.5-4.0	6.4	6.7	5.6	6.1	6.7	6.7	6.7	6.4	5.7	4.3	4.7	4.6	4.9	4.2	5.1	6.0	5.5	5.7	7.0	7.4	8.6	+1.2
4.5-5.0	7.0	6.4	6.3	6.7	7.5	6.7	6.4	5.7	5.2	4.3	4.8	4.1	5.8	6.2	5.9	6.2	5.3	5.8	8.3	6.9	8.6	+1.7s
5.5-6.0 (High)	6.5	6.4	6.1	7.0	7.4	7.2	7.7	6.0	4.8	5.0	3.8	4.7	6.1	6.2	5.5	7.4	7.1	7.0	8.2	7.9	8.3	+0.4
Race (2-year average):[b]																						
White	—	—	6.3	6.3	6.8	7.0	7.2	6.9	6.2	5.5	5.0	4.9	5.4	5.8	5.7	6.1	6.3	6.4	7.4	8.0	8.6	+0.6
Black	—	—	1.3	1.3	1.2	1.1	1.0	0.9	0.9	0.7	0.7	1.0	0.8	0.6	0.7	0.6	0.6	0.6	0.6	0.9	1.0	+0.1
Hispanic	—	—	6.1	6.0	4.9	5.2	4.5	5.2	5.0	4.1	3.9	3.9	4.0	3.1	2.3	2.7	3.6	4.1	5.1	5.4	6.4	+1.0

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
See Table D-40 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-9

Cocaine: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months											
	8th Grade						10th Grade					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Approx. N =	17500	18600	18300	17300	17500		14800	14800	15300	15800	17000	
Total	1.1	1.5	1.7	2.1	2.6	+0.5	2.2	1.9	2.1	2.8	3.5	+0.7
Sex:												
Male	1.4	1.5	1.9	2.1	2.5	+0.4	2.2	2.0	2.5	3.1	3.5	+0.4
Female	0.9	1.5	1.5	2.1	2.6	+0.5	2.2	1.7	1.6	2.5	3.3	+0.8
College Plans:												
None or under 4 yrs.	3.2	4.8	5.4	6.6	7.0	+0.4	4.7	4.0	5.1	6.6	7.2	+0.6
Complete 4 yrs.	0.8	1.0	1.1	1.5	2.0	+0.5	1.7	1.4	1.4	2.0	2.8	+0.8s
Region:												
Northeast	1.3	0.8	1.0	2.2	2.2	0.0	1.5	1.0	2.0	2.4	2.5	+0.1
North Central	0.9	1.4	1.0	1.2	2.6	+1.4s	1.7	1.7	1.4	2.2	2.9	+0.7
South	1.1	1.7	2.1	2.5	2.4	-0.1	2.0	1.8	1.9	2.6	3.5	+0.9
West	1.5	2.0	2.7	2.3	3.3	+1.0	3.6	3.2	3.7	4.7	5.3	+0.6
Population Density:												
Large MSA	1.1	1.4	1.3	1.9	2.4	+0.5	1.9	1.6	1.6	2.3	3.4	+1.1
Other MSA	1.1	1.7	2.2	2.5	2.8	+0.3	2.7	2.1	2.3	3.1	3.5	+0.4
Non-MSA	1.2	1.3	1.2	1.4	2.4	+1.0	1.6	1.7	2.1	2.7	3.6	+0.9
Parental Education:[a]												
1.0-2.0 (Low)	2.4	3.2	2.9	3.5	4.9	+1.4	3.3	3.5	3.2	3.8	5.3	+1.5
2.5-3.0	1.4	1.6	2.0	2.3	2.4	+0.1	2.4	1.7	2.2	2.9	4.3	+1.4s
3.5-4.0	0.7	1.2	1.8	2.1	2.8	+0.7	2.4	2.1	2.5	3.2	3.7	+0.5
4.5-5.0	0.7	1.0	1.0	1.6	1.9	+0.3	1.6	1.4	1.6	2.1	2.6	+0.5
5.5-6.0 (High)	1.2	1.5	1.1	1.9	2.5	+0.6	1.9	1.5	1.1	1.9	1.9	0.0
Race (2-year average):[b]												
White	—	1.2	1.3	1.6	2.3	+0.7	—	2.1	2.0	2.2	3.0	+0.8
Black	—	0.7	0.7	0.7	0.6	-0.1	—	0.6	0.6	1.0	0.9	-0.1
Hispanic	—	3.1	4.0	4.5	4.7	+0.2	—	3.7	3.7	4.9	5.5	+0.6

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
'—' indicates data not available.
See Table D-39 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-10
Cocaine: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	5.6	6.0	7.2	9.0	12.0	12.3	12.4	11.5	11.4	11.6	13.1	12.7	10.3	7.9	6.5	5.3	3.5	3.1	3.3	3.6	4.0	+0.4
Sex:																						
Male	7.5	7.6	9.3	11.4	14.6	14.8	13.8	13.1	13.2	13.8	14.8	14.3	11.3	9.1	8.1	6.6	4.1	3.7	4.0	4.5	4.8	+0.3
Female	3.9	4.4	4.9	6.5	9.3	9.8	10.4	9.6	9.3	9.1	11.2	10.9	9.2	6.5	4.9	3.8	2.6	2.4	2.3	2.8	3.1	+0.3
College Plans:																						
None or under 4 yrs.	—	6.6	8.1	9.5	13.7	13.2	12.4	12.5	12.2	13.2	14.7	15.7	12.4	9.7	9.3	7.8	4.9	5.1	4.5	5.3	5.6	+0.3
Complete 4 yrs.	—	5.0	5.5	7.7	9.5	10.8	11.5	9.9	9.9	9.7	11.4	10.4	9.0	6.7	5.3	4.1	2.8	2.4	2.8	3.0	3.4	+0.4
Region:																						
Northeast	5.3	6.6	7.9	11.8	13.8	14.2	16.8	16.9	15.2	19.5	20.8	17.9	13.3	9.1	7.3	6.5	3.8	2.8	3.1	3.1	3.8	+0.7
North Central	5.1	5.5	6.3	8.5	10.5	10.9	9.4	9.0	8.0	5.8	8.2	10.1	7.5	6.1	5.3	4.1	3.2	2.5	2.4	3.7	3.4	-0.3
South	5.4	5.1	6.0	6.8	8.5	7.8	6.8	6.3	7.7	7.7	7.5	7.1	7.0	6.2	6.0	4.8	3.0	3.2	3.1	3.4	3.6	+0.2
West	7.8	7.9	10.2	10.7	18.6	20.6	22.1	17.9	19.2	19.3	19.7	20.0	16.4	12.1	8.5	6.6	4.4	4.3	4.9	4.5	5.8	+1.3
Population Density:																						
Large MSA	7.3	8.6	8.6	12.3	16.6	18.7	17.5	17.2	16.9	16.8	18.8	18.8	12.9	9.3	6.4	5.6	4.1	3.6	2.7	3.3	4.4	+1.1
Other MSA	5.9	5.8	7.3	8.9	11.7	11.3	11.5	10.1	11.2	11.0	12.4	12.0	10.1	8.5	7.1	5.4	3.7	3.3	3.9	4.1	3.9	-0.2
Non-MSA	4.3	4.3	5.8	6.4	8.9	8.9	9.4	8.5	7.3	8.3	9.2	9.0	8.1	5.3	5.4	4.8	2.5	2.4	2.7	3.2	3.9	+0.7
Parental Education:[a]																						
1.0-2.0 (Low)	4.5	5.3	5.5	6.3	8.4	9.0	8.3	7.6	9.0	9.4	12.0	10.5	8.7	7.6	6.7	4.7	3.5	3.9	3.5	4.1	4.8	+0.7
2.5-3.0	4.6	6.1	6.8	8.7	11.1	11.2	10.5	11.0	9.8	10.9	12.7	12.9	9.9	7.4	6.4	5.6	3.8	3.3	3.0	4.0	3.9	-0.1
3.5-4.0	4.5	5.9	7.2	9.0	13.2	13.3	13.3	12.5	11.7	12.2	14.0	13.6	11.2	7.2	6.4	5.6	3.7	3.0	3.8	3.8	4.2	+0.4
4.5-5.0	6.3	7.6	8.1	10.4	14.0	13.6	14.9	13.6	13.1	12.2	13.7	12.2	10.0	8.7	7.1	4.4	3.1	2.9	3.0	3.1	3.7	+0.6
5.5-6.0 (High)	5.2	7.1	9.5	11.6	15.2	16.3	16.2	13.8	15.1	13.4	11.9	12.5	10.8	8.1	5.8	5.5	2.4	2.6	2.4	3.3	3.4	+0.1
Race (2-year average):[b]																						
White	—	—	6.5	8.3	10.9	12.8	13.0	12.6	11.8	11.0	13.0	13.5	12.0	9.6	7.6	6.3	4.6	3.3	3.1	3.5	4.0	+0.5
Black	—	—	4.8	4.6	4.6	5.2	4.8	5.2	7.2	6.3	5.3	5.8	4.8	3.8	2.9	1.7	1.5	1.2	0.8	0.9	1.0	+0.1
Hispanic	—	—	7.2	7.5	8.9	11.2	12.4	12.1	11.4	13.3	16.3	16.7	14.0	9.9	7.8	7.4	6.1	5.2	5.8	5.4	5.5	+0.1

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
See Table D-40 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified *year and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-11
Crack: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months											
	8th Grade						10th Grade					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Approx. N =	17500	18600	18300	17300	17500		14800	14800	15300	15800	17000	
Total	0.7	0.9	1.0	1.3	1.6	+0.3s	0.9	0.9	1.1	1.4	1.8	+0.4s
Sex:												
Male	0.8	0.9	1.1	1.3	1.5	+0.2	0.9	0.9	1.3	1.6	1.9	+0.3
Female	0.5	0.9	0.9	1.2	1.6	+0.4	0.8	0.9	0.7	1.0	1.6	+0.6ss
College Plans:												
None or under 4 yrs.	2.0	2.9	3.4	4.6	4.2	-0.4	2.4	2.1	2.7	3.4	3.7	+0.3
Complete 4 yrs.	0.4	0.6	0.6	0.8	1.3	+0.5sss	0.6	0.6	0.7	0.9	1.5	+0.6sss
Region:												
Northeast	0.5	0.4	0.4	1.4	1.4	0.0	0.5	0.4	1.1	1.4	1.1	-0.3
North Central	0.6	1.0	0.8	0.9	1.4	+0.5	0.9	0.9	0.8	1.0	1.5	+0.5
South	0.7	1.0	1.2	1.6	1.4	-0.2	1.0	0.8	0.9	1.3	1.9	+0.6s
West	0.8	1.3	1.4	1.3	2.3	+1.0ss	1.1	1.4	1.7	1.9	2.8	+0.9
Population Density:												
Large MSA	0.5	0.8	0.7	1.3	1.5	+0.2	0.9	0.8	0.7	0.9	1.9	+1.0sss
Other MSA	0.7	1.1	1.2	1.5	1.7	+0.2	0.9	0.9	1.1	1.5	1.6	+0.1
Non-MSA	0.8	0.8	0.9	1.0	1.4	+0.4	0.9	0.9	1.2	1.6	2.3	+0.7
Parental Education:[a]												
1.0-2.0 (Low)	1.7	2.2	1.8	2.8	3.0	+0.2	1.3	1.7	1.8	1.9	3.0	+1.1
2.5-3.0	0.7	0.8	1.0	1.4	1.2	-0.2	1.0	0.8	1.0	1.1	2.4	+1.3sss
3.5-4.0	0.4	0.7	1.2	0.9	1.7	+0.8ss	0.9	1.0	1.4	1.5	1.7	+0.2
4.5-5.0	0.4	0.6	0.5	1.1	1.3	+0.2	0.7	0.6	0.7	1.0	1.3	+0.3
5.5-6.0 (High)	0.8	1.0	0.6	1.4	1.6	+0.2	0.7	0.9	0.5	1.1	1.1	0.0
Race (2-year average):[b]												
White	—	0.7	0.8	1.0	1.4	+0.4s	—	0.9	0.9	1.1	1.5	+0.4s
Black	—	0.4	0.4	0.5	0.5	0.0	—	0.3	0.4	0.8	0.6	-0.2
Hispanic	—	1.9	2.0	2.1	2.7	+0.6	—	1.5	1.7	1.9	2.5	+0.6

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
'—' indicates data not available.
See Table D-39 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-12
Crack: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	—	—	—	—	—	—	—	—	—	—	—	4.1	3.9	3.1	3.1	1.9	1.5	1.5	1.5	1.9	2.1	+0.2
Sex:																						
Male	—	—	—	—	—	—	—	—	—	—	—	4.2	4.6	4.0	4.3	2.3	1.8	1.7	1.9	2.4	2.5	+0.1
Female	—	—	—	—	—	—	—	—	—	—	—	3.6	3.0	2.0	1.8	1.4	1.0	1.0	1.1	1.3	1.5	+0.2
College Plans:																						
None or under 4 yrs.	—	—	—	—	—	—	—	—	—	—	—	5.2	5.1	4.1	3.8	3.5	2.3	2.6	2.7	3.3	3.0	-0.3
Complete 4 yrs.	—	—	—	—	—	—	—	—	—	—	—	2.8	2.7	2.3	2.7	1.2	1.1	1.0	1.2	1.4	1.7	+0.3
Region:																						
Northeast	—	—	—	—	—	—	—	—	—	—	—	6.0	4.0	2.3	3.3	2.0	1.3	1.3	1.2	1.5	1.6	+0.1
North Central	—	—	—	—	—	—	—	—	—	—	—	3.1	3.5	2.4	2.2	1.6	1.5	1.4	1.3	2.2	2.0	-0.2
South	—	—	—	—	—	—	—	—	—	—	—	1.6	2.8	2.6	3.3	1.8	1.2	1.2	1.5	1.6	1.7	+0.1
West	—	—	—	—	—	—	—	—	—	—	—	7.5	6.1	5.6	3.8	2.7	1.8	2.1	2.1	2.3	3.5	+1.2s
Population Density:																						
Large MSA	—	—	—	—	—	—	—	—	—	—	—	5.9	4.7	3.9	3.4	1.6	1.2	1.3	1.3	1.5	2.0	+0.5
Other MSA	—	—	—	—	—	—	—	—	—	—	—	3.5	3.5	3.2	3.3	2.0	1.7	1.6	1.8	2.1	2.1	0.0
Non-MSA	—	—	—	—	—	—	—	—	—	—	—	3.5	3.7	2.0	2.2	2.0	1.2	1.3	1.4	1.9	2.1	+0.2
Parental Education:[a]																						
1.0-2.0 (Low)	—	—	—	—	—	—	—	—	—	—	—	1.2	3.6	3.3	3.1	2.2	1.6	1.9	2.6	2.7	3.4	+0.7
2.5-3.0	—	—	—	—	—	—	—	—	—	—	—	5.3	4.2	2.6	3.1	2.2	1.5	1.9	1.6	2.2	2.3	+0.1
3.5-4.0	—	—	—	—	—	—	—	—	—	—	—	4.0	4.0	3.4	2.8	1.8	1.7	1.3	1.5	1.8	1.7	-0.1
4.5-5.0	—	—	—	—	—	—	—	—	—	—	—	2.9	3.4	3.1	2.6	1.1	0.9	1.0	1.4	1.1	1.9	+0.8s
5.5-6.0 (High)	—	—	—	—	—	—	—	—	—	—	—	3.7	2.4	2.1	3.7	1.8	1.1	0.8	1.0	1.8	1.5	-0.3
Race (2-year average):[b]																						
White	—	—	—	—	—	—	—	—	—	—	—	—	3.8	3.4	3.1	2.1	1.6	1.3	1.3	1.6	1.9	+0.3
Black	—	—	—	—	—	—	—	—	—	—	—	—	1.9	2.5	2.0	1.3	1.0	0.6	0.6	0.9	1.0	+0.1
Hispanic	—	—	—	—	—	—	—	—	—	—	—	—	6.5	3.7	3.2	4.2	3.4	2.7	2.5	2.4	3.1	+0.7

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
See Table D-40 for the number of subgroup cases.
See Appendix B for definition of variables in table.
Data based on one of five forms in 1986; N is one-fifth of N indicated. Data based on two forms in 1987-89; N is two-fifths of N indicated in 1987-88 and two-sixths of N indicated in 1989. Data based on six questionnaire forms in 1990-95.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-13
Other Cocaine: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months											
	8th Grade						10th Grade					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Approx. N =	17500	18600	18300	17300	17500		14800	14800	15300	15800	17000	
Total	1.0	1.2	1.3	1.7	2.1	+0.4	2.1	1.7	1.8	2.4	3.0	+0.6
Sex:												
Male	1.1	1.2	1.5	1.7	2.0	+0.3	2.0	1.9	2.2	2.7	3.1	+0.4
Female	0.8	1.2	1.2	1.8	2.2	+0.4	2.1	1.5	1.4	2.1	2.9	+0.8
College Plans:												
None or under 4 yrs.	2.7	4.2	4.1	5.6	5.9	+0.3	4.4	3.3	4.5	5.9	6.3	+0.4
Complete 4 yrs.	0.6	0.7	0.9	1.2	1.6	+0.4	1.6	1.3	1.3	1.7	2.5	+0.8s
Region:												
Northeast	1.2	0.7	0.9	1.9	1.8	-0.1	1.3	1.0	1.8	2.0	2.2	+0.2
North Central	0.6	1.0	0.7	0.9	2.0	+1.1s	1.6	1.3	1.3	1.8	2.5	+0.7
South	1.0	1.5	1.6	2.0	2.0	0.0	1.9	1.6	1.7	2.2	2.9	+0.7
West	1.3	1.5	2.1	2.0	2.7	+0.7	3.4	3.1	3.2	4.3	4.8	+0.5
Population Density:												
Large MSA	0.9	1.1	1.0	1.6	2.0	+0.4	1.6	1.5	1.4	1.9	2.8	+0.9
Other MSA	0.9	1.4	1.8	2.1	2.1	0.0	2.6	2.0	2.0	2.7	3.1	+0.4
Non-MSA	1.1	0.9	0.7	1.2	2.2	+1.0	1.4	1.4	1.9	2.5	3.1	+0.6
Parental Education:[a]												
1.0-2.0 (Low)	2.1	2.7	2.2	3.1	4.3	+1.2	3.1	2.7	2.7	3.1	5.0	+1.9
2.5-3.0	1.2	1.1	1.5	2.0	2.0	0.0	2.2	1.6	2.0	2.6	3.6	+1.0
3.5-4.0	0.6	1.0	1.5	1.9	2.2	+0.3	2.2	2.0	2.2	2.7	3.3	+0.6
4.5-5.0	0.6	0.8	0.8	1.1	1.6	+0.5	1.6	1.3	1.4	1.8	2.2	+0.4
5.5-6.0 (High)	1.0	1.2	0.8	1.2	2.0	+0.8	1.8	1.3	0.9	1.6	1.7	+0.1
Race (2-year average):[b]												
White	—	0.9	1.0	1.2	1.8	+0.6	—	1.9	1.8	1.9	2.6	+0.7
Black	—	0.6	0.5	0.6	0.5	-0.1	—	0.5	0.5	0.9	0.8	-0.1
Hispanic	—	2.6	3.3	4.0	4.3	+0.3	—	3.4	3.4	4.6	5.2	+0.6

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
'—' indicates data not available.
See Table D-39 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-14
Other Forms of Cocaine: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	—	—	—	—	—	—	—	—	—	—	—	—	9.8	7.4	5.2	4.6	3.2	2.6	2.9	3.0	3.4	+0.4
Sex:																						
Male	—	—	—	—	—	—	—	—	—	—	—	—	10.1	8.0	6.5	5.8	3.7	3.1	3.7	3.7	4.0	+0.3
Female	—	—	—	—	—	—	—	—	—	—	—	—	9.1	6.2	4.0	3.2	2.4	2.0	2.0	2.3	2.5	+0.2
College Plans:																						
None or under 4 yrs	—	—	—	—	—	—	—	—	—	—	—	—	9.8	6.0	7.3	6.3	4.0	4.0	3.9	4.3	4.5	+0.2
Complete 4 yrs	—	—	—	—	—	—	—	—	—	—	—	—	8.3	6.7	4.2	3.7	2.8	2.0	2.5	2.5	2.9	+0.4
Region:																						
Northeast	—	—	—	—	—	—	—	—	—	—	—	—	12.9	7.0	4.9	5.6	3.4	2.8	2.3	2.8	4.2	+1.4
North Central	—	—	—	—	—	—	—	—	—	—	—	—	8.2	5.6	4.8	3.7	2.9	2.2	2.3	3.5	2.7	-0.8
South	—	—	—	—	—	—	—	—	—	—	—	—	5.8	5.8	4.6	4.1	2.8	2.5	2.6	2.6	3.1	+0.5
West	—	—	—	—	—	—	—	—	—	—	—	—	15.3	13.4	7.5	6.1	3.9	3.1	4.6	3.5	4.0	+0.5
Population Density:																						
Large MSA	—	—	—	—	—	—	—	—	—	—	—	—	13.3	9.8	5.6	5.0	3.7	3.1	2.6	2.6	3.7	+1.1
Other MSA	—	—	—	—	—	—	—	—	—	—	—	—	8.9	7.8	5.4	4.7	3.3	2.5	3.6	3.5	3.3	-0.2
Non-MSA	—	—	—	—	—	—	—	—	—	—	—	—	8.0	4.5	4.4	4.1	2.5	2.3	2.0	2.6	3.1	+0.5
Parental Education:[a]																						
1.0-2.0 (Low)	—	—	—	—	—	—	—	—	—	—	—	—	5.3	4.9	3.3	3.4	3.5	3.7	3.9	2.7	2.9	+0.2
2.5-3.0	—	—	—	—	—	—	—	—	—	—	—	—	10.5	6.5	4.6	5.0	3.5	2.3	2.3	3.2	3.4	+0.2
3.5-4.0	—	—	—	—	—	—	—	—	—	—	—	—	10.5	7.2	5.1	4.7	3.2	2.6	3.3	3.4	3.6	+0.2
4.5-5.0	—	—	—	—	—	—	—	—	—	—	—	—	9.0	7.7	6.1	4.1	2.7	2.3	2.9	2.6	3.2	+0.6
5.5-6.0 (High)	—	—	—	—	—	—	—	—	—	—	—	—	9.7	9.0	6.5	5.4	2.4	2.0	1.7	3.1	2.7	-0.4
Race (2-year average):[b]																						
White	—	—	—	—	—	—	—	—	—	—	—	—	—	9.3	7.0	5.3	4.2	2.9	2.6	2.9	3.3	+0.4
Black	—	—	—	—	—	—	—	—	—	—	—	—	—	2.8	1.4	0.7	1.0	1.0	0.7	0.8	0.8	0.0
Hispanic	—	—	—	—	—	—	—	—	—	—	—	—	—	6.3	5.1	5.1	5.0	4.3	5.1	5.1	4.0	-1.1

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
See Table D-40 for the number of subgroup cases.
See Appendix B for definition of variables in table.
Data based on one form in 1987-89; N is one-fifth of N indicated in 1987-88 and one-sixth of N indicated in 1989. Data based on four of six forms in 1990-95; N is four-sixths of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-15
Heroin: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months											
	8th Grade						10th Grade					
	1991	1992	1993	1994	1995[a]	'94–'95 change	1991	1992	1993	1994	1995[a]	'94–'95 change
Approx. N =	17500	18600	18300	17300	17500		14800	14800	15300	15800	17000	
Total	0.7	0.7	0.7	1.2	1.4	+0.2	0.5	0.6	0.7	0.9	1.1	+0.2
Sex:												
Male	0.9	0.8	0.8	1.3	1.6	+0.3	0.7	0.8	0.9	1.0	1.3	+0.3
Female	0.5	0.7	0.5	0.9	1.2	+0.3	0.4	0.4	0.4	0.8	0.8	0.0
College Plans:												
None or under 4 yrs.	2.1	2.7	2.0	3.9	4.4	+0.5	1.4	1.4	1.9	2.0	2.2	+0.2
Complete 4 yrs.	0.4	0.4	0.5	0.7	1.0	+0.3s	0.3	0.4	0.4	0.7	0.9	+0.2
Region:												
Northeast	0.5	0.6	0.7	1.3	1.4	+0.1	0.4	0.6	0.6	0.6	0.9	+0.3
North Central	0.4	0.8	0.5	1.1	1.4	+0.3	0.6	0.6	0.8	0.9	1.0	+0.1
South	0.8	0.7	0.7	1.1	1.5	+0.4	0.6	0.5	0.6	1.0	1.3	+0.3
West	1.0	0.7	1.1	1.1	1.2	+0.1	0.4	0.8	0.5	1.2	1.0	-0.2
Population Density:												
Large MSA	0.5	0.7	0.7	1.2	1.2	0.0	0.6	0.6	0.7	0.8	1.0	+0.2
Other MSA	0.7	0.8	0.9	1.2	1.5	+0.3	0.5	0.6	0.6	0.9	1.0	+0.1
Non-MSA	0.8	0.7	0.4	1.0	1.5	+0.5	0.4	0.6	0.7	1.0	1.3	+0.3
Parental Education:[b]												
1.0-2.0 (Low)	1.5	1.4	0.8	2.0	2.6	+0.6	0.4	0.5	1.2	1.3	1.8	+0.5
2.5-3.0	0.9	0.7	0.6	1.1	1.0	-0.1	0.8	0.7	0.7	0.8	1.0	+0.2
3.5-4.0	0.6	0.6	0.7	1.3	1.6	+0.3	0.5	0.6	0.8	0.9	1.2	+0.3
4.5-5.0	0.4	0.5	0.8	0.8	1.2	+0.4	0.4	0.5	0.3	0.9	0.9	0.0
5.5-6.0 (High)	0.5	0.8	0.6	1.3	1.6	+0.3	0.4	0.5	0.8	0.9	0.9	0.0
Race (2-year average):[c]												
White	—	0.6	0.6	0.8	1.2	+0.4s	—	0.6	0.7	0.8	1.0	+0.2
Black	—	0.4	0.3	0.6	0.7	+0.1	—	0.3	0.4	0.6	0.6	0.0
Hispanic	—	1.4	1.4	1.5	1.8	+0.3	—	0.7	0.7	0.7	1.0	+0.3

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
'—' indicates data not available.
See Table D-39 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] In 1995, the heroin question was changed in half of the forms. Separate questions were asked for use with injection and without injection. Data presented here represent the combined data from all forms.

[b] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[c] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-16
Heroin: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

Percent who used in last twelve months

	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995[a]	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	1.0	0.8	0.8	0.8	0.5	0.5	0.5	0.6	0.6	0.5	0.6	0.5	0.5	0.5	0.6	0.5	0.4	0.6	0.5	0.6	1.1	+0.5sss
Sex:																						
Male	1.2	1.0	1.2	1.1	0.6	0.6	0.6	0.8	0.7	0.7	0.8	0.7	0.7	0.7	0.9	0.6	0.6	0.8	0.7	0.8	1.4	+0.6ss
Female	0.8	0.5	0.4	0.6	0.3	0.4	0.3	0.4	0.4	0.3	0.3	0.2	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.4	0.8	+0.4ss
College Plans:																						
None or under 4 yrs	—	0.9	1.1	1.0	0.7	0.6	0.5	0.7	0.9	0.6	0.7	0.8	0.5	0.8	0.9	0.6	0.5	0.9	1.0	1.1	1.5	+0.4
Complete 4 yrs	—	0.6	0.5	0.6	0.3	0.3	0.5	0.4	0.3	0.4	0.5	0.4	0.4	0.3	0.5	0.4	0.4	0.5	0.4	0.5	0.9	+0.4ss
Region:																						
Northeast	1.1	0.7	0.7	0.6	0.6	0.5	0.5	0.9	0.6	0.6	0.8	0.7	0.6	0.5	0.9	0.8	0.2	0.5	0.9	0.7	1.0	+0.3
North Central	1.3	1.0	1.0	0.8	0.5	0.7	0.6	0.5	0.4	0.6	0.6	0.4	0.6	0.3	0.6	0.3	0.8	0.6	0.5	0.9	0.7	-0.2
South	0.9	0.7	0.9	1.1	0.6	0.3	0.5	0.5	0.7	0.5	0.6	0.5	0.4	0.5	0.6	0.5	0.4	0.6	0.4	0.6	1.4	+0.8sss
West	0.7	0.6	0.5	0.8	0.2	0.4	0.5	0.3	0.5	0.4	0.3	0.5	0.5	0.7	0.7	0.3	0.3	0.8	0.5	0.4	1.0	+0.6s
Population Density:																						
Large MSA	1.3	1.0	0.5	0.7	0.4	0.3	0.3	0.7	0.6	0.6	0.7	0.7	0.3	0.4	0.5	0.4	0.4	0.4	0.6	0.4	1.4	+1.0sss
Other MSA	0.9	1.0	0.8	0.8	0.6	0.5	0.5	0.4	0.4	0.4	0.7	0.4	0.6	0.5	0.7	0.5	0.4	0.7	0.5	0.8	0.9	+0.1
Non-MSA	1.0	0.4	1.1	1.0	0.5	0.6	0.7	0.6	0.7	0.7	0.4	0.5	0.5	0.5	0.8	0.5	0.6	0.7	0.5	0.5	1.0	+0.5s
Parental Education:[b]																						
1.0-2.0 (Low)	1.2	0.8	0.8	0.8	0.6	0.6	0.4	0.4	0.5	0.6	0.8	0.9	0.5	0.5	0.9	0.8	0.5	0.7	0.3	0.9	1.8	+0.9
2.5-3.0	0.8	0.9	0.8	0.9	0.5	0.6	0.6	0.7	0.6	0.5	0.5	0.4	0.4	0.7	0.7	0.4	0.4	0.6	0.4	0.8	1.1	+0.3
3.5-4.0	0.6	0.8	0.9	0.7	0.4	0.4	0.5	0.3	0.5	0.5	0.5	0.5	0.6	0.4	0.6	0.4	0.4	0.6	0.6	0.4	0.9	+0.5s
4.5-5.0	1.2	1.4	0.6	0.9	0.6	0.4	0.3	0.6	0.4	0.4	0.7	0.3	0.3	0.3	0.6	0.4	0.6	0.7	0.7	0.3	1.1	+0.8sss
5.5-6.0 (High)	1.2	0.6	1.1	1.0	0.8	0.4	0.7	1.1	0.8	0.5	0.6	0.5	0.7	0.4	0.4	0.5	0.5	0.3	0.4	0.9	1.0	+0.1
Race (2-year average):[c]																						
White	—	—	0.8	0.8	0.6	0.5	0.4	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.5	0.6	0.5	0.5	0.5	0.5	0.8	+0.3s
Black	—	—	0.6	0.6	0.5	0.5	0.6	0.7	0.6	0.4	0.5	0.5	0.5	0.7	0.6	0.3	0.2	0.5	0.4	0.3	0.4	+0.1
Hispanic	—	—	1.2	2.0	1.7	0.4	0.3	0.4	0.6	1.1	1.0	0.9	0.9	0.5	0.5	0.6	0.8	0.9	0.7	0.5	1.2	+0.7

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
See Table D-40 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] In 1995, the heroin question was changed in half of the forms. Separate questions were asked for use with injection and without injection. Data presented here represent the combined data from all forms.

[b] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[c] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-17
Other Opiates: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months[a]																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	5.7	5.7	6.4	6.0	6.2	6.3	5.9	5.3	5.1	5.2	5.9	5.2	5.3	4.6	4.4	4.5	3.5	3.3	3.6	3.8	4.7	+0.9ss
Sex:																						
Male	6.6	6.8	7.3	6.9	7.3	7.1	6.5	6.0	6.0	6.2	6.8	5.9	5.6	5.1	4.9	5.0	3.9	3.3	3.8	4.3	5.6	+1.3s
Female	4.8	4.7	5.4	5.1	5.1	5.4	5.3	4.6	4.2	4.2	5.1	4.6	4.9	4.1	3.8	3.9	3.1	3.3	3.3	3.4	3.8	+0.4
College Plans:																						
None or under 4 yrs	—	6.8	8.0	6.8	7.3	7.4	7.2	6.1	6.1	6.1	6.6	6.7	6.1	4.8	5.3	5.7	3.8	4.5	4.2	4.9	5.6	+0.7
Complete 4 yrs	—	4.6	4.7	4.9	5.0	5.1	4.8	4.6	4.3	4.3	5.4	4.3	4.8	4.6	3.9	4.0	3.5	3.0	3.3	3.5	4.4	+0.9ss
Region:																						
Northeast	6.1	6.5	6.6	6.8	7.0	5.7	7.2	5.6	5.6	6.7	7.3	5.7	6.0	3.7	4.7	4.1	3.2	3.7	4.6	3.5	4.3	+0.8
North Central	6.2	6.2	7.5	6.7	6.1	7.6	6.2	5.5	5.3	4.8	6.3	5.8	5.3	4.4	5.7	4.6	4.2	3.0	3.2	4.7	5.2	+0.5
South	4.9	5.0	5.2	4.5	5.2	5.0	4.1	4.5	4.4	4.5	3.8	4.2	4.3	4.7	3.2	4.1	2.7	2.7	3.2	3.8	4.5	+0.7
West	5.4	5.0	6.0	6.7	7.1	6.8	7.2	6.2	5.2	5.3	7.1	5.4	6.1	5.7	4.9	5.3	4.4	3.5	4.0	3.1	4.7	+1.6s
Population Density:																						
Large MSA	7.3	6.7	6.7	6.9	7.3	6.9	6.9	5.2	6.0	5.2	6.0	4.8	5.2	4.0	4.1	3.8	3.3	3.5	3.1	4.1	4.8	+0.7
Other MSA	5.5	6.1	6.3	5.9	6.3	7.0	6.3	5.7	5.3	5.1	6.4	5.6	5.3	5.2	4.9	4.6	3.9	3.1	3.7	3.7	4.7	+1.0s
Non-MSA	4.8	4.6	6.2	5.4	5.3	4.8	4.8	4.9	4.1	5.2	5.2	5.0	5.2	4.4	3.8	4.8	3.1	3.6	3.7	3.6	4.7	+1.1
Parental Education:[b]																						
1.0-2.0 (Low)	5.4	5.0	5.1	5.0	5.2	5.2	4.8	4.8	4.8	4.7	4.5	4.7	4.1	3.9	3.6	3.8	3.8	3.5	3.8	3.0	4.0	+1.0
2.5-3.0	5.1	5.9	6.4	6.2	5.9	5.8	5.6	4.9	5.0	5.2	5.5	5.0	4.4	4.3	4.0	4.1	3.2	3.5	2.9	3.8	4.2	+0.4
3.5-4.0	4.2	6.3	6.7	6.0	6.3	6.9	6.6	5.2	4.5	5.1	6.5	6.0	5.6	4.3	4.6	4.6	3.7	3.2	3.7	3.4	4.4	+1.0
4.5-5.0	6.4	6.3	6.6	6.4	6.7	7.0	6.3	6.4	6.0	5.6	6.4	4.8	5.4	5.4	4.2	4.7	3.6	3.4	3.7	4.3	5.5	+1.2
5.5-6.0 (High)	6.5	6.5	7.9	6.1	7.8	6.8	6.8	7.1	5.3	4.9	6.8	5.4	7.8	5.6	6.4	5.7	4.1	3.2	4.5	4.8	5.5	+0.7
Race (2-year average):[c]																						
White	—	—	6.6	6.7	6.6	6.8	6.7	6.2	5.8	5.7	6.3	6.3	6.0	5.8	5.3	5.2	4.7	4.1	4.1	4.3	5.0	+0.7
Black	—	—	2.2	2.0	1.8	1.7	1.9	1.8	1.7	1.6	1.6	1.7	1.6	1.5	1.5	1.4	1.1	0.9	1.0	1.5	1.4	-0.1
Hispanic	—	—	3.8	3.5	3.5	3.7	4.3	4.1	4.0	4.2	3.6	3.0	2.4	2.2	2.5	2.4	2.3	2.1	2.3	2.2	2.5	+0.3

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
See Table D-40 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Only drug use which was not under a doctor's orders is included here.

[b] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[c] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-18
Stimulants: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months[a]											
	8th Grade						10th Grade					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Approx. N =	17500	18600	18300	17300	17500		14800	14800	15300	15800	17000	
Total	6.2	6.5	7.2	7.9	8.7	+0.8	8.2	8.2	9.6	10.2	11.9	+1.7ss
Sex:												
Male	5.5	5.2	5.6	6.5	7.0	+0.5	7.0	7.0	8.2	8.6	9.6	+1.0
Female	6.9	7.9	8.8	9.3	10.3	+1.0	9.3	9.3	10.9	11.7	14.1	+2.4ss
College Plans:												
None or under 4 yrs.	11.6	12.9	14.6	14.5	17.1	+2.6	13.4	14.4	15.5	16.6	19.9	+3.3s
Complete 4 yrs.	5.4	5.7	6.3	7.0	7.6	+0.6	7.1	6.9	8.4	8.9	10.6	+1.7ss
Region:												
Northeast	5.1	4.3	5.9	6.9	7.3	+0.4	6.1	5.4	7.8	8.7	9.8	+1.1
North Central	7.1	8.0	7.3	7.8	10.6	+2.8s	10.3	9.4	9.5	10.5	13.3	+2.8s
South	6.1	6.6	7.3	8.3	8.6	+0.3	8.1	8.7	10.9	11.2	12.8	+1.6
West	6.0	6.6	8.6	8.4	7.9	-0.5	7.7	8.4	9.5	9.4	10.6	+1.2
Population Density:												
Large MSA	5.8	4.8	5.6	6.6	7.2	+0.6	7.5	6.7	7.6	8.0	9.2	+1.2
Other MSA	6.2	7.5	8.2	8.8	8.9	+0.1	7.9	8.0	9.5	10.8	12.8	+2.0s
Non-MSA	6.7	7.0	7.5	7.5	10.1	+2.6s	9.3	10.0	11.6	11.2	13.3	+2.1
Parental Education:[b]												
1.0-2.0 (Low)	8.3	8.4	10.2	11.2	11.8	+0.6	10.0	11.9	12.3	10.8	14.3	+3.5
2.5-3.0	6.6	7.3	8.2	9.0	10.6	+1.6	9.7	8.9	10.5	11.6	14.2	+2.6s
3.5-4.0	6.7	7.4	7.8	8.5	10.1	+1.6	7.9	8.4	10.5	11.1	12.4	+1.3
4.5-5.0	5.3	5.5	6.4	6.6	6.8	+0.2	7.4	6.6	7.5	8.9	10.7	+1.8s
5.5-6.0 (High)	5.7	5.4	5.3	5.7	6.4	+0.7	6.9	6.9	8.3	7.3	8.8	+1.5
Race (2-year average):[c]												
White	—	6.8	7.4	8.1	9.3	+1.2	—	9.4	10.1	11.0	12.4	+1.4
Black	—	3.3	3.4	3.9	3.9	0.0	—	2.8	3.0	4.0	4.0	0.0
Hispanic	—	7.2	7.7	8.6	8.7	+0.1	—	6.2	7.0	7.7	8.9	+1.2

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
'—' indicates data not available.
See Table D-39 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Only drug use not under a doctor's orders is included here.

[b] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[c] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-19
Stimulants, Adjusted: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months[a]																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	16.2	15.8	16.3	17.1	18.3	20.8	26.0	20.3	17.9	17.7	15.8	13.4	12.2	10.9	10.8	9.1	8.2	7.1	8.4	9.4	9.3	-0.1
Sex:																						
Male	15.6	15.8	16.0	16.9	18.4	19.7	24.8	19.6	17.2	16.8	14.9	12.7	11.8	10.8	11.1	9.4	8.3	7.2	8.2	9.2	9.5	+0.3
Female	16.5	15.4	16.4	17.1	17.8	21.8	26.9	20.3	17.9	18.2	16.4	13.8	12.4	10.9	10.5	8.6	7.9	6.9	8.5	9.4	8.9	-0.5
College Plans:																						
None or under 4 yrs	—	19.3	20.5	20.0	21.8	25.8	30.9	23.7	20.9	22.2	19.7	17.7	16.0	13.9	15.1	12.6	11.0	9.7	11.0	13.4	12.3	-1.1
Complete 4 yrs	—	11.9	11.5	13.7	14.5	16.5	22.3	16.8	14.5	14.2	13.3	10.9	10.2	9.5	9.1	7.4	7.0	6.1	7.6	8.0	8.3	+0.3
Region:																						
Northeast	16.5	14.7	16.8	19.6	22.0	22.0	28.8	21.5	17.9	19.0	16.8	12.6	10.4	8.4	9.0	6.3	6.5	6.2	8.1	7.4	9.6	+2.2
North Central	18.7	17.8	19.0	18.2	18.3	22.2	30.1	24.1	20.4	20.3	17.3	15.2	13.5	12.2	13.3	10.7	10.1	8.4	8.9	12.0	9.5	-2.5s
South	12.6	13.7	13.2	14.0	14.0	17.7	19.6	16.4	16.4	16.1	12.8	11.5	11.5	10.8	9.9	8.9	7.9	6.7	8.3	9.0	9.2	+0.2
West	18.5	17.2	16.0	17.8	20.7	22.1	26.6	18.7	18.2	16.9	17.3	15.0	13.4	11.8	11.1	10.2	7.8	6.9	8.3	8.4	8.9	+0.5
Population Density:																						
Large MSA	19.6	15.4	15.3	17.7	19.5	21.0	28.0	21.6	18.1	17.7	15.0	11.2	10.9	8.8	7.1	6.5	6.2	6.0	6.5	7.8	9.1	+1.3
Other MSA	15.5	16.3	17.1	17.5	18.9	20.8	25.5	20.7	19.6	17.1	15.7	14.2	11.9	11.9	11.4	9.6	8.4	6.7	8.5	9.4	8.5	-0.9
Non-MSA	14.8	15.4	15.9	16.0	16.6	19.9	25.1	18.8	15.6	18.5	16.6	14.1	14.0	11.3	13.3	10.6	9.5	9.0	9.8	10.9	10.8	-0.1
Parental Education:[b]																						
1.0-2.0 (Low)	15.7	13.4	14.5	14.9	16.0	19.1	22.3	18.7	15.7	17.1	14.5	11.9	11.9	9.8	10.4	7.6	9.5	7.0	9.0	10.4	9.9	-0.5
2.5-3.0	16.7	16.9	17.4	17.3	18.4	22.2	26.7	21.0	19.6	19.2	17.0	15.2	13.3	11.1	11.7	9.7	9.1	7.7	8.6	10.3	9.9	-0.4
3.5-4.0	14.9	16.6	16.1	18.2	19.6	21.5	26.9	21.7	19.4	18.5	17.2	14.3	12.6	11.8	12.3	10.6	8.9	7.7	9.1	9.4	9.1	-0.3
4.5-5.0	14.5	16.8	15.9	16.9	17.1	20.0	26.2	19.1	18.9	15.9	15.1	12.0	11.7	10.3	9.4	8.1	6.5	6.3	8.0	9.5	9.2	-0.3
5.5-6.0 (High)	12.0	14.6	16.0	17.2	20.4	17.9	26.8	20.5	16.1	14.0	10.9	10.1	10.4	10.0	9.1	7.3	5.7	5.8	7.6	7.1	8.1	+1.0
Race (2-year average)[c]																						
White	—	—	17.3	18.2	19.2	21.3	26.4	23.6	22.3	20.5	18.9	16.4	14.3	13.0	12.4	11.4	9.8	8.8	9.0	10.4	10.7	+0.3
Black	—	—	5.3	4.7	4.2	5.3	5.8	6.0	5.7	4.7	4.3	4.0	3.8	3.9	3.6	3.1	2.7	2.2	2.3	3.4	3.4	0.0
Hispanic	—	—	12.3	12.2	12.8	14.5	17.5	12.3	11.5	13.2	14.6	10.8	8.7	9.6	9.0	7.0	6.1	6.0	6.2	6.4	7.1	+0.7

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
See Table D-40 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Beginning in 1982, the question about stimulant use (i.e., amphetamines) was revised to get respondents to exclude the inappropriate reporting of nonprescription stimulants. The prevalence rate dropped slightly as a result of this methodological change. (In 1982 and 1983, these data were based on three of the five questionnaire forms.) Only drug use which was not under a doctor's orders is included here.

[b] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[c] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-20
Barbiturates: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months[a]																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	10.7	9.6	9.3	8.1	7.5	6.8	6.6	5.5	5.2	4.9	4.6	4.2	3.6	3.2	3.3	3.4	3.4	2.8	3.4	4.1	4.7	+0.6
Sex:																						
Male	12.3	9.9	10.2	8.4	7.6	7.3	7.2	5.9	5.9	5.5	5.2	4.7	4.0	3.4	3.5	3.8	3.4	2.9	3.4	4.3	5.1	+0.8
Female	9.9	9.2	8.4	7.7	7.0	6.0	5.8	5.0	4.2	4.0	3.9	3.8	3.2	3.0	3.0	3.0	3.2	2.6	3.3	3.8	4.2	+0.4
College Plans:																						
None or under 4 yrs.	—	11.6	11.4	9.1	9.3	9.0	8.1	7.4	6.7	6.2	6.2	6.1	4.7	4.1	4.8	4.7	4.3	3.9	3.8	5.4	5.9	+0.5
Complete 4 yrs.	—	7.3	6.8	6.8	5.2	4.8	5.1	3.8	3.8	3.7	3.6	3.0	3.0	2.7	2.5	2.8	2.9	2.3	3.2	3.7	4.4	+0.7s
Region:																						
Northeast	11.5	10.4	9.2	9.6	9.6	6.9	6.8	5.6	4.7	5.1	5.3	5.2	4.2	2.5	3.2	2.9	2.8	2.7	3.5	4.0	4.1	+0.1
North Central	12.8	10.4	10.7	7.9	6.9	7.3	7.5	5.4	6.1	4.9	4.9	4.2	3.3	2.5	3.2	3.5	3.5	2.7	3.5	4.1	4.5	+0.4
South	9.9	9.7	9.3	7.8	7.3	7.0	5.5	6.3	5.2	5.2	4.2	4.1	3.7	4.1	3.7	4.0	3.6	3.0	3.6	4.8	5.3	+0.5
West	10.0	6.7	6.6	6.6	5.7	5.2	6.5	3.9	4.0	4.2	4.1	3.3	3.2	3.2	2.7	2.9	3.3	2.5	2.7	2.8	4.3	+1.5s
Population Density:																						
Large MSA	11.1	10.2	8.1	8.1	8.3	6.6	6.9	5.3	5.2	4.4	4.4	3.7	3.3	2.8	2.6	2.6	2.4	2.4	2.6	3.6	4.1	+0.5
Other MSA	11.3	9.8	9.9	8.2	7.3	6.5	6.4	5.7	5.3	4.9	4.2	4.4	3.6	3.4	3.1	3.6	3.9	2.6	3.1	4.3	4.9	+0.6
Non-MSA	9.8	9.0	9.5	8.1	7.0	7.2	6.6	5.5	5.0	5.5	5.4	4.5	3.9	3.2	4.4	3.9	3.3	3.4	4.3	4.1	5.0	+0.9
Parental Education:[b]																						
1.0-2.0 (Low)	10.3	9.1	8.0	7.5	7.8	8.0	6.5	5.8	6.1	4.7	5.0	4.8	3.8	4.3	4.1	3.1	3.6	3.9	3.8	4.5	4.9	+0.4
2.5-3.0	10.3	10.2	10.3	8.2	7.3	7.2	6.5	5.7	5.7	5.2	5.3	4.6	3.6	3.1	3.4	3.7	3.7	2.4	3.6	4.5	5.2	+0.7
3.5-4.0	9.5	9.6	9.0	8.3	7.4	6.3	6.5	5.1	4.6	5.0	4.4	4.4	3.2	2.9	3.2	3.9	3.0	2.8	2.8	4.0	4.6	+0.6
4.5-5.0	10.7	10.1	9.1	7.8	6.6	5.9	6.4	5.0	4.4	4.3	4.1	3.3	3.9	3.3	2.8	3.1	3.3	2.9	3.4	4.0	4.4	+0.4
5.5-6.0 (High)	9.0	10.3	8.3	8.0	7.2	5.4	6.8	5.8	3.7	4.0	3.1	3.4	3.6	3.1	3.4	2.9	3.6	2.4	3.8	3.6	4.1	+0.5
Race (2-year average):[c]																						
White	—	—	10.2	9.3	8.2	7.5	7.2	6.5	5.8	5.5	5.1	4.7	4.2	3.7	3.5	3.7	3.8	3.5	3.6	4.3	4.9	+0.6
Black	—	—	3.3	3.2	2.6	2.5	2.4	2.0	1.7	1.6	1.6	1.6	1.7	1.5	1.1	1.1	1.2	1.1	1.0	1.5	1.6	+0.1
Hispanic	—	—	7.4	5.8	5.8	5.8	5.7	5.1	4.1	4.4	4.6	3.6	2.8	2.8	3.2	2.8	2.4	2.2	1.9	2.6	3.5	+0.9

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
See Table D-40 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Only drug use which was not under a doctor's orders is included here.

[b] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[c] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-21

Tranquilizers: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

Percent who used in last twelve months[a]

	8th Grade						10th Grade					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Approx. N =	17500	18600	18300	17300	17500		14800	14800	15300	15800	17000	
Total	1.8	2.0	2.1	2.4	2.7	+0.3	3.2	3.5	3.3	3.3	4.0	+0.7s
Sex:												
Male	1.5	1.6	1.8	1.9	2.0	+0.1	2.5	2.7	3.2	3.0	4.0	+1.0s
Female	2.1	2.3	2.4	2.8	3.3	+0.5	3.8	4.3	3.2	3.6	4.0	+0.4
College Plans:												
None or under 4 yrs.	3.9	4.9	3.6	5.1	5.9	+0.8	5.0	6.0	5.8	6.0	7.4	+1.4
Complete 4 yrs.	1.5	1.5	1.9	2.0	2.3	+0.3	2.8	3.1	2.7	2.8	3.4	+0.6s
Region:												
Northeast	1.0	1.6	1.7	2.5	2.3	-0.2	2.7	2.8	3.4	2.8	2.6	-0.2
North Central	1.4	1.9	1.3	1.7	2.6	+0.9	2.4	3.0	2.5	2.6	3.2	+0.6
South	2.6	2.5	2.4	2.6	3.0	+0.4	4.2	4.5	3.9	4.2	5.1	+0.9
West	1.8	1.6	3.0	2.7	2.4	-0.3	2.9	3.2	3.2	3.6	4.3	+0.7
Population Density:												
Large MSA	1.8	2.1	1.7	2.5	1.8	-0.7	3.2	3.3	2.7	2.6	3.2	+0.6
Other MSA	1.7	1.8	2.5	2.6	3.2	+0.6	3.0	3.8	3.3	3.9	4.1	+0.2
Non-MSA	2.2	2.2	1.6	1.9	2.6	+0.7	3.5	3.3	3.6	3.0	4.7	+1.7s
Parental Education:[b]												
1.0-2.0 (Low)	3.6	3.8	2.5	3.2	3.9	+0.7	3.3	5.3	4.8	4.2	5.0	+0.8
2.5-3.0	1.6	2.1	2.5	2.6	2.7	+0.1	3.6	3.5	3.1	3.3	4.5	+1.2s
3.5-4.0	2.0	2.2	2.1	2.6	3.2	+0.6	3.2	3.4	3.5	3.4	4.3	+0.9
4.5-5.0	1.4	0.9	1.8	2.0	2.2	+0.2	2.5	3.9	2.9	2.9	3.5	+0.6
5.5-6.0 (High)	1.8	1.9	1.7	2.1	1.6	-0.5	3.5	2.3	3.1	3.4	3.2	-0.2
Race (2-year average):[c]												
White	—	2.0	2.0	2.2	2.7	+0.5	—	4.0	3.8	3.6	4.1	+0.5
Black	—	0.9	1.1	1.2	1.2	0.0	—	0.9	0.9	0.9	0.8	-0.1
Hispanic	—	2.7	3.1	3.4	3.3	-0.1	—	2.9	3.3	3.1	3.1	0.0

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
'—' indicates data not available.
See Table D-39 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Only drug use not under a doctor's orders is included here.

[b] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[c] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-22
Tranquilizers: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months[a]																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	10.6	10.3	10.8	9.9	9.6	8.7	8.0	7.0	6.9	6.1	6.1	5.8	5.5	4.8	3.8	3.5	3.6	2.8	3.5	3.7	4.4	+0.7s
Sex:																						
Male	10.0	9.4	10.2	9.7	9.9	9.0	8.0	6.9	7.0	6.3	6.4	5.9	5.2	4.7	4.0	3.5	3.5	2.7	3.5	4.0	4.7	+0.7
Female	11.1	11.0	11.4	10.1	9.3	8.5	7.7	7.1	6.7	5.8	5.7	5.8	5.8	4.8	3.5	3.5	3.6	3.0	3.3	3.5	4.1	+0.6
College Plans:																						
None or under 4 yrs.	—	11.5	12.3	11.1	11.0	10.7	9.4	8.0	8.0	7.4	6.8	7.2	6.7	5.1	4.8	4.3	4.2	3.9	3.9	4.5	5.6	+1.1
Complete 4 yrs.	—	8.9	9.0	8.6	8.1	7.2	6.9	6.3	5.8	5.2	5.5	5.1	4.9	4.6	3.3	3.2	3.4	2.5	3.3	3.5	4.1	+0.6
Region:																						
Northeast	9.2	9.7	10.4	10.9	11.5	8.6	8.3	7.8	6.8	6.8	7.1	6.4	6.9	4.5	3.7	2.9	3.0	3.0	3.7	3.5	3.9	+0.4
North Central	10.6	10.1	11.0	8.8	7.5	8.2	7.8	6.2	6.8	5.6	6.0	5.5	4.5	3.7	3.1	2.9	3.0	2.3	2.8	3.1	4.0	+0.9
South	11.3	11.7	11.4	10.5	10.4	9.5	7.8	7.4	7.4	6.9	5.9	6.3	5.7	6.0	4.4	4.3	4.0	3.5	4.2	4.8	5.0	+0.2
West	11.7	8.5	9.6	8.9	9.4	8.6	8.0	6.4	6.2	4.9	5.3	4.8	5.2	4.4	3.4	3.9	4.4	2.3	3.0	2.8	4.3	+1.5s
Population Density:																						
Large MSA	11.2	9.6	9.6	10.3	9.9	8.7	8.3	7.0	7.0	5.4	5.8	5.3	5.8	4.7	3.1	3.6	2.5	2.9	2.9	3.9	4.0	+0.1
Other MSA	11.0	11.3	11.4	10.1	10.2	9.3	8.1	7.2	7.2	6.1	6.0	5.7	5.6	5.0	3.5	3.7	4.1	2.7	3.6	3.7	4.5	+0.8
Non-MSA	9.9	9.5	11.0	9.2	8.7	8.0	7.5	6.8	6.5	6.8	6.5	6.4	5.2	4.5	4.9	3.3	3.7	3.1	3.7	3.5	4.8	+1.3
Parental Education:[b]																						
1.0-2.0 (Low)	11.2	10.1	9.4	9.4	9.1	7.8	7.1	6.1	6.0	6.5	5.3	6.7	5.7	3.9	3.6	3.4	4.0	3.9	3.3	4.2	3.9	-0.3
2.5-3.0	9.8	10.3	11.5	10.1	8.8	9.1	8.0	7.3	7.2	6.5	6.2	5.8	5.4	4.6	3.9	3.2	3.6	2.8	3.3	3.5	4.7	+1.2s
3.5-4.0	9.8	11.2	11.1	9.5	10.4	8.9	8.3	6.7	6.9	5.8	6.4	6.5	5.3	4.5	3.4	4.4	3.1	2.7	3.5	3.6	4.3	+0.7
4.5-5.0	11.3	11.7	11.4	10.5	10.0	8.1	7.4	7.6	6.6	5.8	6.3	4.7	5.9	5.5	3.8	3.1	3.9	3.0	3.4	3.7	4.5	+0.8
5.5-6.0 (High)	9.3	12.0	10.1	11.0	11.4	10.3	9.1	7.6	7.1	6.3	5.5	5.4	5.4	5.6	4.9	4.0	4.0	2.2	4.2	4.2	4.1	-0.1
Race (2-year average):[c]																						
White	—	—	11.4	11.1	10.5	9.9	9.1	8.3	7.8	7.3	6.8	6.6	6.3	5.9	5.0	4.2	4.1	3.7	3.7	4.2	4.6	+0.4
Black	—	—	4.3	4.2	3.6	3.1	3.0	2.5	2.3	2.1	1.7	1.7	2.0	2.0	1.2	0.7	0.9	1.3	1.0	1.1	1.2	+0.1
Hispanic	—	—	8.4	8.2	7.4	6.4	5.7	5.8	5.1	5.3	5.0	4.4	3.7	2.5	1.6	1.9	2.7	2.4	2.0	2.4	3.5	+1.1

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
See Table D-40 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Only drug use which was not under a doctor's orders are included here.

[b] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[c] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-23

Alcohol: Trends in Thirty-Day Prevalence of Use by Subgroups for Eighth and Tenth Graders

Percent who used in last thirty days

	8th Grade						10th Grade					
	1991	1992	1993[a]	1994	1995	'94–'95 change	1991	1992	1993[a]	1994	1995	'94–'95 change
Approx. N =	17500	18600	18300	17300	17500		14800	14800	16300	15800	17000	
Total	25.1	26.1	26.2	—	—	—	42.8	39.9	41.5	—	—	—
			24.3	25.5	24.6	-0.9			38.2	39.2	38.8	-0.4
Sex:												
Male	26.3	26.3	26.7	—	—	—	45.5	41.6	43.4	—	—	—
			25.3	26.5	25.0	-1.5			40.6	43.5	39.7	-3.8ss
Female	23.8	25.9	26.1	—	—	—	40.2	38.3	39.4	—	—	—
			23.7	24.7	24.0	-0.7			35.6	34.8	37.8	+3.0s
College Plans:												
None or under 4 yrs.	37.2	39.6	39.2	—	—	—	53.6	49.5	53.5	—	—	—
			41.1	41.4	40.0	-1.4			48.6	52.0	52.2	+0.2
Complete 4 yrs.	23.1	24.2	24.8	—	—	—	40.6	37.9	39.1	—	—	—
			22.2	23.6	22.6	-1.0			36.1	36.4	36.4	0.0
Region:												
Northeast	24.3	23.8	24.8	—	—	—	48.0	42.3	43.5	—	—	—
			21.0	25.4	24.1	-1.3			42.4	37.4	38.3	+0.9
North Central	26.6	28.3	25.8	—	—	—	43.5	40.3	42.5	—	—	—
			24.7	24.2	24.7	+0.5			37.4	39.6	38.9	-0.7
South	25.1	26.8	26.4	—	—	—	41.7	38.2	40.4	—	—	—
			25.4	25.6	25.5	-0.1			38.0	40.5	39.4	-1.1
West	23.1	23.5	27.9	—	—	—	39.6	39.8	39.7	—	—	—
			25.6	27.2	23.1	-4.1s			35.6	38.2	38.0	-0.2
Population Density:												
Large MSA	25.4	27.4	24.7	—	—	—	43.6	40.4	40.9	—	—	—
			21.2	23.8	22.3	-1.5			39.0	36.3	34.6	-1.7
Other MSA	24.3	26.1	27.6	—	—	—	41.4	38.6	38.8	—	—	—
			26.0	27.4	25.3	-2.1			36.2	40.1	39.9	-0.2
Non-MSA	26.2	24.2	25.1	—	—	—	44.8	41.9	47.0	—	—	—
			24.9	23.8	26.0	+2.2			41.3	40.6	41.3	+0.7
Parental Education:[b]												
1.0-2.0 (Low)	30.7	32.8	32.5	—	—	—	42.1	40.4	41.3	—	—	—
			28.0	33.5	30.8	-2.7			37.5	38.6	43.5	+4.9
2.5-3.0	27.0	27.2	26.0	—	—	—	43.9	40.9	44.9	—	—	—
			28.0	27.4	27.8	+0.4			40.6	41.5	42.3	+0.8
3.5-4.0	25.1	26.3	28.2	—	—	—	44.2	40.0	41.8	—	—	—
			25.9	26.7	26.8	+0.1			38.0	40.6	38.8	-1.8
4.5-5.0	22.8	24.6	23.1	—	—	—	40.7	39.4	38.3	—	—	—
			20.6	22.6	21.0	-1.6			36.2	37.7	37.9	+0.2
5.5-6.0 (High)	24.0	25.2	26.2	—	—	—	44.9	41.7	39.9	—	—	—
			22.3	23.6	20.5	-3.1			39.3	35.4	34.3	-1.1
Race (2-year average):[c]												
White	—	26.6	27.1	—	—	—	—	44.1	43.1	—	—	—
			—	25.3	25.4	+0.1			—	40.4	41.0	+0.6
Black	—	18.6	19.7	—	—	—	—	30.2	29.3	—	—	—
			—	19.4	18.7	-0.7			—	29.7	28.0	-1.7
Hispanic	—	31.0	32.3	—	—	—	—	41.0	39.9	—	—	—
			—	33.5	32.4	-1.1			—	37.7	40.5	+2.8

NOTES: Level of significance of difference between the two most recent classes: s =.05, ss =.01, sss =.001. '—' indicates data not available. See Table D-39 for the number of subgroup cases. See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] In 1993, the question text was changed slightly in one form to indicate that a "drink" meant "more than a few sips." The data in the upper line for each subgroup came from the form using the original wording, while the data in the lower line came from the form using the revised wording. N is one-half of N indicated for each line. Beginning in 1994, data based on both forms.

[b] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[c] To derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-24
Alcohol: Trends in Thirty-Day Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last thirty days																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993[a]	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	68.2	68.3	71.2	72.1	71.8	72.0	70.7	69.7	69.4	67.2	65.9	65.3	66.4	63.9	60.0	57.1	54.0	51.3	51.0 48.6	— 50.1	— 51.3	— +1.2
Sex:																						
Male	75.0	74.5	77.8	77.5	76.7	77.4	75.7	74.1	74.4	71.4	69.8	69.0	69.9	68.0	65.1	61.3	58.4	55.8	54.9 54.2	— 55.5	— 55.7	— +0.2
Female	62.2	61.8	65.0	67.1	67.0	66.8	65.7	65.4	64.3	62.8	62.1	61.9	63.1	59.9	54.9	52.3	49.0	46.8	46.7 43.4	— 45.2	— 47.0	— +1.8
College Plans:																						
None or under 4 yrs.	—	69.9	72.8	72.7	72.2	73.5	72.1	71.6	70.5	69.0	67.9	66.6	68.6	65.0	61.6	58.7	57.1	54.9	53.6 52.4	— 53.6	— 55.9	— +2.3
Complete 4 yrs.	—	66.5	69.4	71.6	71.4	70.8	70.0	68.6	68.1	65.7	64.6	64.8	65.7	63.6	59.1	56.4	52.7	50.0	49.6 47.4	— 48.9	— 49.6	— +0.7
Region:																						
Northeast	76.9	75.7	76.6	78.0	81.1	79.4	80.4	76.7	74.4	73.6	72.3	67.6	69.1	66.7	61.7	65.3	59.6	51.5	55.2 56.1	— 53.1	— 55.0	— +1.9
North Central	71.1	73.2	76.4	77.2	73.9	75.1	73.6	75.0	74.4	70.6	66.8	71.3	70.7	67.9	65.9	61.5	59.7	58.0	54.6 51.6	— 53.8	— 55.3	— +1.5
South	62.8	60.2	64.7	67.0	65.7	65.5	62.9	61.3	64.3	62.1	60.0	58.2	60.7	58.6	55.1	51.0	49.1	48.1	50.1 47.7	— 49.2	— 50.6	— +1.4
West	60.0	62.2	64.4	63.1	65.5	67.6	65.3	63.8	62.9	63.6	66.2	64.5	66.7	65.0	59.3	51.6	49.7	46.7	43.8 39.8	— 44.2	— 43.2	— -1.0
Population Density:																						
Large MSA	75.3	72.6	74.0	75.5	77.3	78.0	75.5	72.9	69.2	66.6	67.4	66.2	66.3	63.8	56.9	50.2	52.9	49.0	52.3 50.6	— 49.5	— 50.6	— +1.1
Other MSA	68.5	67.0	72.0	72.7	72.0	70.8	69.1	69.3	69.8	66.2	65.1	64.8	66.9	64.1	60.7	57.4	55.7	50.8	49.8 47.1	— 49.2	— 50.6	— +1.4
Non-MSA	63.2	66.5	67.8	68.4	67.3	69.0	68.9	67.6	69.0	69.0	65.9	65.2	65.5	63.8	61.7	54.4	52.0	54.1	51.9 49.8	— 52.5	— 53.4	— +0.9
Parental Education:[b]																						
1.0-2.0 (Low)	58.7	62.5	62.0	62.7	64.6	65.9	62.1	61.3	61.2	58.1	58.7	56.1	56.3	54.5	47.8	47.2	49.9	45.6	43.3 36.6	— 43.5	— 45.9	— +2.4
2.5-3.0	70.0	71.4	72.5	71.9	71.1	72.0	70.7	69.4	69.2	67.4	65.9	65.3	67.0	64.6	59.7	57.2	53.3	52.3	50.5 49.0	— 49.9	— 52.0	— +2.1
3.5-4.0	69.2	67.9	73.5	75.0	74.6	73.3	71.5	72.7	70.4	69.6	66.9	66.7	67.2	64.3	62.9	57.7	54.3	51.2	53.5 51.2	— 50.1	— 50.6	— +0.5
4.5-5.0	69.6	71.3	74.5	77.0	76.0	74.4	73.1	74.5	73.1	69.3	68.9	68.0	68.8	66.0	62.1	60.8	54.8	51.0	50.7 49.8	— 52.6	— 51.8	— -0.8
5.5-6.0 (High)	67.3	72.5	77.1	79.2	75.9	77.2	77.4	74.1	75.0	70.3	67.9	69.9	70.5	67.3	62.2	60.8	58.0	55.7	53.3 53.2	— 52.2	— 55.1	— +2.9
Race (2-year average):[c]																						
White	—	—	72.8	75.0	75.3	75.4	75.4	74.6	73.9	72.8	71.2	70.2	71.0	70.6	67.3	63.8	60.0	56.8	55.6 —	— 54.0	— 54.5	— +0.5
Black	—	—	49.5	48.7	47.2	47.6	46.7	46.0	47.7	45.5	42.8	42.1	39.4	39.8	39.5	35.8	33.7	31.7	32.4 —	— 33.8	— 35.2	— +1.4
Hispanic	—	—	63.0	64.5	63.8	63.6	62.0	60.3	59.1	59.7	58.1	56.3	57.2	57.8	52.9	49.1	51.5	53.8	50.5 —	— 45.9	— 48.7	— +2.8

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available. See Table D-40 for the number of subgroup cases. See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] In 1993, the question text was changed slightly in three of six forms to indicate that a "drink" meant "more than a few sips." The data in the upper line for each subgroup came from forms using the original wording, while the data in the lower line came from forms using the revised wording. Beginning in 1994, data based on all six forms.

[b] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[c] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

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TABLE D-25
Been Drunk: Trends in Thirty-Day Prevalence by Subgroups for Eighth and Tenth Graders

Percent who had been drunk in last thirty days

	8th Grade						10th Grade					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Approx. N =	17500	18600	18300	17300	17500		14800	14800	15300	15800	17000	
Total	7.6	7.5	7.8	8.7	8.3	-0.4	20.5	18.1	19.8	20.3	20.8	+0.5
Sex:												
Male	8.4	7.4	7.8	9.0	8.2	-0.8	22.3	18.6	21.4	23.2	21.9	-1.3
Female	7.0	7.6	7.8	8.3	8.2	-0.1	18.7	17.5	18.1	17.2	19.6	+2.4s
College Plans:												
None or under 4 yrs.	15.8	17.2	18.4	20.0	17.2	-2.8	29.5	26.3	29.0	31.1	31.4	+0.3
Complete 4 yrs.	6.4	6.1	6.4	7.3	7.3	0.0	18.6	16.4	17.9	18.0	19.0	+1.0
Region:												
Northeast	5.7	6.4	6.2	8.2	8.2	0.0	23.9	18.8	20.0	19.0	19.5	+0.5
North Central	7.7	7.6	7.3	8.3	8.3	0.0	21.8	18.9	20.1	21.0	22.6	+1.6
South	8.8	8.2	8.3	8.8	8.4	-0.4	19.2	16.8	19.8	20.9	20.9	0.0
West	7.3	6.9	9.4	9.6	8.2	-1.4	18.2	18.3	19.0	19.5	19.5	0.0
Population Density:												
Large MSA	7.4	7.0	6.0	7.6	7.2	-0.4	20.6	17.6	17.6	16.1	18.2	+2.1
Other MSA	7.3	7.4	8.4	9.7	8.9	-0.8	20.1	17.3	18.2	21.7	21.8	+0.1
Non-MSA	8.4	8.2	8.8	7.9	8.6	+0.7	21.1	19.9	24.7	21.8	21.8	0.0
Parental Education:[a]												
1.0-2.0 (Low)	13.4	11.0	10.4	12.5	13.1	+0.6	20.9	18.2	22.2	20.0	23.4	+3.4
2.5-3.0	9.2	8.8	9.2	9.3	9.6	+0.3	22.5	18.5	21.4	21.2	22.9	+1.7
3.5-4.0	6.9	7.6	8.5	9.3	9.4	+0.1	20.4	19.4	19.4	22.1	21.4	-0.7
4.5-5.0	6.1	6.5	5.9	7.5	6.4	-1.1	19.7	17.1	18.2	18.7	19.7	+1.0
5.5-6.0 (High)	6.8	4.9	6.7	7.6	6.0	-1.6	20.6	18.5	18.6	17.9	17.9	0.0
Race (2-year average):[b]												
White	—	7.7	7.8	8.4	8.9	+0.5	—	21.6	20.8	22.0	22.7	+0.7
Black	—	5.4	5.1	5.6	5.6	0.0	—	9.4	10.3	10.1	9.8	-0.3
Hispanic	—	9.9	9.9	10.8	10.8	0.0	—	16.2	15.9	17.0	18.6	+1.6

NOTES: Level of significance of difference between the two most recent classes: s =.05, ss =.01, sss =.001.
'—' indicates data not available.
See Table D-39 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-26
Been Drunk: Trends in Thirty-Day Prevalence by Subgroups for Twelfth Graders

	Percent who had been drunk in last thirty days																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31.6	29.9	28.9	30.8	33.2	+2.4
Sex:																						
Male	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37.1	36.2	34.6	34.5	37.8	+3.3
Female	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.4	24.6	23.6	26.8	28.8	+2.0
College Plans:																						
None or under 4 yrs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32.2	31.4	32.6	32.2	37.6	+5.4
Complete 4 yrs	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.9	29.2	27.4	29.4	31.4	+2.0
Region:																						
Northeast	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.4	30.0	36.0	35.2	35.5	+0.3
North Central	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37.2	38.2	32.6	34.1	38.2	+4.1
South	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26.5	26.2	26.4	29.1	31.2	+2.1
West	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.5	26.6	23.2	25.4	27.1	+1.7
Population Density:																						
Large MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.4	26.1	29.4	28.7	32.0	+3.3
Other MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.5	29.8	26.9	29.9	31.7	+1.8
Non-MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29.4	33.7	32.0	34.4	36.9	+2.5
Parental Education:[a]																						
1.0-2.0 (Low)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.4	20.6	23.6	25.7	25.4	-0.3
2.5-3.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.2	30.0	26.4	30.3	30.0	-0.3
3.5-4.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31.0	31.3	29.2	29.9	34.4	+4.5
4.5-5.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34.4	29.4	32.8	33.5	36.5	+3.0
5.5-6.0 (High)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	40.5	34.3	30.4	30.7	34.9	+4.2
Race (2-year average):[b]																						
White	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34.7	33.6	34.0	36.4	+2.4
Black	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.0	12.5	14.1	13.2	-0.9
Hispanic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.2	24.8	23.0	24.2	+1.2

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
See Table D-40 for the number of subgroup cases.
See Appendix B for definition of variables in table.
Data based on two of six forms; N is two-sixths of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-27
Alcohol: Trends in Two-week Prevalence of Five or More Drinks in a Row by Subgroups for Eighth and Tenth Graders

Percent reporting 5+ drinks in a row on one or more occasions

	8th Grade						10th Grade					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Approx. N =	17500	18600	18300	17300	17500		14800	14800	15300	15800	17000	
Total	12.9	13.4	13.5	14.5	14.5	0.0	22.9	21.1	23.0	23.6	24.0	+0.4
Sex:												
Male	14.3	13.9	14.8	16.0	15.1	-0.9	26.4	23.7	26.5	28.5	26.3	-2.2s
Female	11.4	12.8	12.3	13.0	13.9	+0.9	19.5	18.6	19.3	18.7	21.5	+2.8s
College Plans:												
None or under 4 yrs.	24.4	26.4	29.3	29.3	29.2	-0.1	33.0	31.8	35.1	36.4	37.5	+1.1
Complete 4 yrs.	11.1	11.5	11.3	12.5	12.7	+0.2	20.8	18.9	20.5	20.8	21.5	+0.7
Region:												
Northeast	10.3	10.7	10.0	12.6	12.6	0.0	25.1	19.9	23.2	21.3	22.1	+0.8
North Central	13.4	14.2	12.8	13.7	14.2	+0.5	23.7	21.3	23.5	24.8	25.3	+0.5
South	14.1	14.8	15.5	14.9	15.7	+0.8	22.7	21.5	22.6	24.6	24.5	-0.1
West	12.3	12.8	15.0	16.5	14.4	-2.1	20.7	21.7	22.5	22.5	23.1	+0.6
Population Density:												
Large MSA	12.4	12.5	10.6	12.3	12.3	0.0	21.6	19.3	20.9	19.0	20.2	+1.2
Other MSA	12.4	14.0	14.5	15.7	14.2	-1.5	22.1	20.0	21.2	24.4	24.1	-0.3
Non-MSA	14.4	13.5	15.5	14.4	17.8	+3.4s	25.5	25.2	28.1	26.8	28.1	+1.3
Parental Education:[a]												
1.0-2.0 (Low)	21.8	21.8	19.7	20.4	23.2	+2.8	25.7	25.6	26.8	25.5	30.5	+5.0
2.5-3.0	15.1	16.0	15.6	17.1	17.8	+0.7	26.0	22.4	25.7	25.7	26.7	+1.0
3.5-4.0	12.8	13.0	13.9	14.8	15.0	+0.2	21.7	21.3	22.8	24.7	24.6	-0.1
4.5-5.0	10.2	10.3	10.3	11.8	11.0	-0.8	20.8	19.7	19.9	21.7	21.6	-0.1
5.5-6.0 (High)	9.8	9.5	10.1	11.2	10.5	-0.7	22.4	19.5	20.4	19.3	19.0	-0.3
Race (2-year average):[b]												
White	—	12.7	12.6	12.9	13.9	+1.0	—	23.2	23.0	24.5	25.4	+0.9
Black	—	9.6	10.7	11.8	10.8	-1.0	—	15.0	14.8	14.0	13.3	-0.7
Hispanic	—	20.4	21.4	22.3	22.0	-0.3	—	22.9	23.8	24.2	26.8	+2.6

NOTES: Level of significance of difference between the two most recent classes: s =.05, ss =.01, sss =.001.
'—' indicates data not available.
See Table D-39 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-28

Alcohol: Trends in Two-week Prevalence of Five or More Drinks in a Row by Subgroups for Twelfth Graders

	Percent reporting 5+ drinks in a row on one or more occasions																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	36.8	37.1	39.4	40.3	41.2	41.2	41.4	40.5	40.8	38.7	36.7	36.8	37.5	34.7	33.0	32.2	29.8	27.9	27.5	28.2	29.8	+1.6
Sex:																						
Male	49.0	47.9	50.0	51.4	51.9	52.1	51.6	49.8	50.4	47.5	45.3	46.1	46.1	43.0	41.2	39.1	37.8	35.6	34.6	37.0	36.9	-0.1
Female	26.4	25.9	29.3	29.6	30.9	30.5	30.8	31.1	31.0	29.6	28.2	28.1	29.2	26.5	24.9	24.4	21.2	20.3	20.7	20.2	23.0	+2.8s
College Plans:																						
None or under 4 yrs	—	41.8	44.7	44.3	44.5	46.3	46.7	45.7	44.9	43.5	41.6	41.3	42.7	38.5	38.2	35.8	34.4	32.8	32.7	34.0	35.2	+1.2
Complete 4 yrs	—	31.5	33.9	35.9	37.7	36.9	37.4	36.5	37.2	34.6	33.0	34.1	35.0	32.8	30.5	30.3	27.9	26.0	25.8	26.3	27.8	+1.5
Region:																						
Northeast	43.0	40.8	40.0	43.5	47.4	48.0	49.3	43.3	42.2	42.9	42.4	37.1	37.2	34.3	33.3	37.2	33.4	25.8	30.3	29.2	31.2	+2.0
North Central	40.6	42.8	44.5	45.3	44.8	45.4	44.9	47.9	47.2	44.3	39.7	42.6	43.5	39.9	40.4	37.9	34.6	34.6	30.1	31.9	34.3	+2.4
South	32.1	30.8	36.3	36.4	36.7	34.4	34.7	34.6	37.6	33.5	29.7	31.7	33.4	30.4	28.5	27.2	26.3	24.7	27.1	26.9	28.6	+1.7
West	29.0	32.8	34.2	33.3	34.0	36.0	36.6	32.5	33.3	34.5	36.1	35.9	36.6	35.4	30.8	26.3	26.3	26.0	22.0	24.5	24.2	-0.3
Population Density:																						
Large MSA	37.9	37.0	38.1	39.5	42.2	44.8	43.4	40.9	38.8	37.9	37.6	36.4	34.8	32.5	28.8	34.5	28.6	25.5	27.6	26.8	28.3	+1.5
Other MSA	36.1	36.8	39.5	40.1	40.8	38.9	39.5	39.7	41.0	37.3	36.4	35.5	38.6	35.3	33.7	31.8	30.1	27.0	26.5	27.1	28.4	+1.3
Non-MSA	36.9	38.0	40.5	41.3	40.9	41.4	42.2	41.3	42.0	41.2	37.6	39.1	38.3	35.9	35.8	30.6	30.4	31.9	29.2	31.5	34.0	+2.5
Parental Education:[a]																						
1.0-2.0 (Low)	31.6	34.1	35.6	36.3	36.0	37.0	37.0	36.3	37.2	34.8	31.8	31.7	33.9	30.7	25.4	25.3	26.8	23.4	21.9	24.0	26.6	+2.6
2.5-3.0	37.5	41.1	41.8	40.9	42.3	43.3	43.2	41.4	41.2	39.8	38.2	37.9	38.9	35.7	34.0	32.7	29.9	28.1	27.6	28.5	31.2	+2.7
3.5-4.0	35.1	36.4	39.5	41.3	41.4	42.1	42.4	42.4	40.9	39.3	36.9	37.9	38.3	34.7	34.3	32.0	30.4	27.9	28.4	28.4	29.5	+1.1
4.5-5.0	34.4	36.9	37.2	42.4	43.8	40.8	40.8	41.9	41.9	38.6	37.1	37.1	37.2	36.1	34.2	34.5	29.9	28.1	28.4	29.3	29.9	+0.6
5.5-6.0 (High)	29.9	34.5	41.1	37.2	41.9	38.5	39.3	40.9	42.1	38.2	34.9	36.7	37.2	34.7	31.8	34.1	30.6	30.4	29.0	29.0	30.7	+1.7
Race (2-year average):[b]																						
White	—	—	40.5	42.4	43.5	44.3	44.9	44.9	44.6	43.6	41.5	40.3	40.9	40.0	37.9	36.6	34.6	32.1	31.3	31.5	32.3	+0.8
Black	—	—	19.0	19.3	18.9	17.7	17.1	17.1	18.3	17.2	15.7	16.4	15.8	15.2	15.7	14.4	11.7	11.3	12.6	14.4	14.9	+0.5
Hispanic	—	—	36.4	37.2	33.6	33.1	34.8	32.9	32.5	33.0	31.7	30.8	33.0	33.7	28.8	25.6	27.9	31.1	27.2	24.3	26.6	+2.3

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
See Table D-40 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-29
Cigarettes: Trends in Thirty-Day Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last thirty days											
	8th Grade						10th Grade					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Approx. N =	17500	18600	18300	17300	17500		14800	14800	15300	15800	17000	
Total	14.3	15.5	16.7	18.6	19.1	+0.5	20.8	21.5	24.7	25.4	27.9	+2.5ss
Sex:												
Male	15.5	14.9	17.2	19.3	18.8	-0.5	20.8	20.6	24.6	26.6	27.7	+1.1
Female	13.1	15.9	16.3	17.9	19.0	+1.1	20.7	22.2	24.5	23.9	27.9	+4.0ss
College Plans:												
None or under 4 yrs.	29.2	31.9	34.1	36.6	36.5	-0.1	36.5	35.0	41.9	42.2	46.3	+4.1s
Complete 4 yrs.	11.8	13.1	14.3	16.1	16.8	+0.7	17.3	18.6	21.0	21.7	24.7	+3.0ss
Region:												
Northeast	13.7	14.4	15.0	17.8	18.6	+0.8	22.4	21.9	27.1	24.5	27.8	+3.3
North Central	15.5	16.5	16.3	18.5	20.9	+2.4	22.9	24.3	26.0	28.8	30.1	+1.3
South	15.7	17.0	18.2	19.5	19.4	-0.1	21.2	19.8	24.0	25.7	30.8	+5.1ss
West	10.0	12.2	16.4	18.0	16.5	-1.5	16.7	20.2	21.2	20.1	19.6	-0.5
Population Density:												
Large MSA	12.8	15.0	14.1	15.5	16.5	+1.0	19.7	21.6	22.5	22.3	23.3	+1.0
Other MSA	14.9	15.3	17.8	20.7	19.4	-1.3	20.3	20.3	23.8	26.3	28.9	+2.6
Non-MSA	14.8	16.4	17.9	17.8	21.5	+3.7s	22.7	23.7	28.2	26.7	31.3	+4.6s
Parental Education:[a]												
1.0-2.0 (Low)	26.2	24.1	23.3	26.1	25.3	-0.8	23.5	28.4	29.5	26.4	30.9	+4.5
2.5-3.0	16.4	16.9	19.8	20.6	22.7	+2.1	24.1	23.3	28.0	29.1	33.2	+4.1ss
3.5-4.0	13.9	14.9	17.4	20.1	20.8	+0.7	20.4	20.6	24.8	26.0	27.8	+1.8
4.5-5.0	10.1	13.3	12.5	14.9	14.9	0.0	18.5	19.5	20.1	22.6	25.9	+3.3s
5.5-6.0 (High)	11.3	11.5	13.3	15.1	14.5	-0.6	18.5	18.9	21.4	20.7	21.8	+1.1
Race (2-year average):[b]												
White	—	16.2	17.8	18.9	20.7	+1.8	—	24.1	26.0	27.8	29.7	+1.9
Black	—	5.3	6.6	8.7	8.9	+0.2	—	6.6	7.5	9.8	11.5	+1.7
Hispanic	—	16.7	18.3	21.3	21.6	+0.3	—	18.3	20.5	19.4	21.4	+2.0

NOTES: Level of significance of difference between the two most recent classes: s =.05, ss =.01, sss =.001.
'—' indicates data not available.
See Table D-39 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-30

Cigarettes: Trends in Thirty-Day Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last thirty days																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	36.7	38.8	38.4	36.7	34.4	30.5	29.4	30.0	30.3	29.3	30.1	29.6	29.4	28.7	28.6	29.4	28.3	27.8	29.9	31.2	33.5	+2.3s
Sex:																						
Male	37.2	37.7	36.6	34.5	31.2	27.8	26.5	26.8	28.0	25.9	28.2	27.9	27.0	28.0	27.7	29.1	29.0	29.2	30.7	32.9	34.5	+1.6
Female	35.9	39.1	39.6	38.1	37.1	33.4	31.6	32.6	31.6	31.9	31.4	30.6	31.4	28.9	29.0	29.2	27.5	26.1	28.7	29.2	32.0	+2.8s
College Plans:																						
None or under 4 yrs	—	46.3	46.2	44.6	43.0	39.6	38.1	38.7	38.0	37.9	40.5	38.5	39.7	37.5	38.0	37.5	38.1	38.6	37.3	40.9	43.5	+2.6
Complete 4 yrs	—	29.8	29.4	27.4	26.0	22.3	22.3	22.1	23.3	22.7	22.8	24.0	24.3	24.4	24.1	25.4	24.2	23.8	27.3	28.0	29.9	+1.9
Region:																						
Northeast	40.1	41.8	43.0	40.6	37.0	34.1	31.5	32.1	34.6	33.5	34.2	35.2	34.1	31.2	29.4	31.9	30.5	29.6	34.2	33.2	34.4	+1.2
North Central	39.5	41.3	40.5	39.0	36.6	31.5	32.4	33.5	33.2	31.4	34.1	32.5	31.7	31.1	34.9	34.0	34.6	31.7	33.2	36.2	37.8	+1.6
South	36.2	39.1	37.6	35.7	35.4	31.8	28.9	29.4	28.7	28.6	25.6	26.1	26.0	28.0	26.4	26.1	25.4	26.4	29.0	30.7	33.5	+2.8
West	26.3	28.3	27.7	27.3	24.8	21.2	21.8	20.4	21.8	22.9	26.3	23.3	26.6	23.9	22.7	25.1	23.2	22.8	22.9	24.0	26.5	+2.5
Population Density:																						
Large MSA	39.7	40.4	40.9	37.5	33.4	31.2	30.6	32.1	30.8	31.3	31.9	30.8	29.3	26.9	25.9	27.9	26.2	25.6	29.5	29.0	33.9	+4.9ss
Other MSA	35.1	35.9	36.1	34.3	33.5	29.7	27.4	27.8	29.1	28.2	28.5	28.0	28.2	28.3	28.2	29.6	29.3	26.9	29.8	31.1	31.7	+0.6
Non-MSA	36.7	40.9	39.2	39.4	36.4	30.9	30.9	31.2	31.5	29.3	30.8	31.0	31.8	31.4	32.2	30.4	28.6	31.5	30.3	33.8	36.2	+2.4
Parental Education:[a]																						
1.0-2.0 (Low)	37.2	43.2	39.6	38.1	38.1	32.7	32.5	32.6	32.7	33.6	32.3	28.6	28.8	28.1	25.4	26.3	31.3	27.1	26.5	26.2	31.2	+5.0
2.5-3.0	37.0	41.2	40.8	39.3	35.9	34.2	31.7	32.0	32.2	31.8	32.3	32.3	31.4	29.9	30.8	30.8	28.7	30.3	30.4	32.8	35.0	+2.2
3.5-4.0	31.9	35.3	37.3	34.0	33.3	28.0	28.2	29.0	28.0	28.1	29.7	29.7	28.8	27.8	29.4	29.3	28.4	27.8	29.9	31.4	33.2	+1.8
4.5-5.0	32.3	35.0	33.0	32.6	30.1	25.7	26.0	25.5	27.8	25.2	27.7	26.4	27.6	28.6	27.0	29.1	26.9	25.8	30.1	32.0	32.6	+0.6
5.5-6.0 (High)	26.8	30.8	32.8	31.9	29.6	24.0	22.5	25.1	25.5	23.7	22.6	26.7	29.3	27.8	26.3	28.6	27.1	25.5	30.5	30.4	34.0	+3.6
Race (2-year average):[b]																						
White	—	—	38.3	37.6	36.0	33.0	30.5	30.7	31.3	31.2	31.3	31.9	32.1	32.2	32.2	32.3	32.2	31.8	33.2	35.2	36.6	+1.4
Black	—	—	36.7	32.7	30.2	26.8	23.7	21.8	21.2	19.3	18.1	16.9	14.2	13.3	12.6	12.2	10.6	8.7	9.5	10.9	12.9	+2.0
Hispanic	—	—	35.7	32.8	26.8	22.6	23.2	24.7	24.7	25.3	25.5	23.7	22.7	21.9	20.6	21.7	24.0	25.0	24.2	23.6	25.1	+1.5

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
See Table D-40 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-31
Cigarettes: Trends in Thirty-Day Prevalence of Daily Use by Subgroups for Eighth and Tenth Graders

	Percent who used daily in last thirty days											
	8th Grade						10th Grade					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Approx. N =	17500	18600	18300	17300	17500		14800	14800	15300	15800	17000	
Total	7.2	7.0	8.3	8.8	9.3	+0.5	12.6	12.3	14.2	14.6	16.3	+1.7s
Sex:												
Male	8.1	6.9	8.8	9.5	9.2	-0.3	12.4	12.1	13.8	15.2	16.3	+1.1
Female	6.2	7.2	7.8	8.0	9.2	+1.2	12.5	12.4	14.3	13.7	16.1	+2.4s
College Plans:												
None or under 4 yrs.	18.5	20.1	21.5	22.6	22.5	-0.1	25.7	25.5	28.9	28.9	32.7	+3.8s
Complete 4 yrs.	5.3	5.1	6.4	6.8	7.5	+0.7	9.6	9.5	11.0	11.5	13.3	+1.8s
Region:												
Northeast	7.2	7.1	7.1	8.6	9.2	+0.6	14.3	13.1	16.3	14.1	15.8	+1.7
North Central	7.8	7.6	8.5	9.4	11.0	+1.6	14.3	14.3	15.1	16.9	17.6	+0.7
South	7.9	7.8	9.3	9.4	9.4	0.0	12.8	11.4	13.9	15.5	19.3	+3.8ss
West	4.6	4.8	7.4	7.4	7.0	-0.4	9.1	10.7	10.9	9.7	9.4	-0.3
Population Density:												
Large MSA	6.3	6.3	5.7	6.6	7.6	+1.0	12.3	11.7	12.3	12.0	12.6	+0.6
Other MSA	7.7	7.2	9.1	9.5	9.3	-0.2	11.7	11.6	13.6	15.5	17.5	+2.0
Non-MSA	7.3	7.8	10.1	9.6	11.1	+1.5	14.3	14.5	16.9	15.5	18.4	+2.9
Parental Education:[a]												
1.0-2.0 (Low)	15.9	11.9	12.7	13.0	15.8	+2.8	16.0	17.8	19.3	15.5	20.0	+4.5
2.5-3.0	8.6	8.4	9.7	11.3	11.3	0.0	15.5	13.9	16.9	17.6	21.6	+4.0ss
3.5-4.0	6.5	6.9	8.5	8.9	9.4	+0.5	12.0	11.8	13.6	15.9	17.0	+1.1
4.5-5.0	4.0	5.2	5.9	6.1	7.2	+1.1	10.6	10.5	10.7	11.5	12.6	+1.1
5.5-6.0 (High)	4.9	4.2	6.3	5.8	5.7	-0.1	9.6	9.0	10.5	9.6	10.3	+0.7
Race (2-year average):[b]												
White	—	7.7	8.8	9.7	10.5	+0.8	—	14.5	15.3	16.5	17.6	+1.1
Black	—	1.4	1.8	2.6	2.8	+0.2	—	2.8	3.1	3.8	4.7	+0.9
Hispanic	—	7.3	7.2	9.0	9.2	+0.2	—	8.4	8.9	8.1	9.9	+1.8

NOTES: Level of significance of difference between the two most recent classes: s =.05, ss =.01, sss =.001.
'—' indicates data not available.
See Table D-39 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-32
Cigarettes: Trends in Thirty-Day Prevalence of Daily Use by Subgroups for Twelfth Graders

	Percent who used daily in last thirty days																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	26.9	28.8	28.8	27.5	25.4	21.3	20.3	21.1	21.2	18.7	19.5	18.7	18.7	18.1	18.9	19.1	18.5	17.2	19.0	19.4	21.6	+2.2s
Sex:																						
Male	26.9	28.0	27.1	26.0	22.3	18.5	18.1	18.2	19.2	16.0	17.8	16.9	16.4	17.4	17.9	18.6	18.8	17.2	19.4	20.4	21.7	+1.3
Female	26.4	28.8	30.0	28.3	27.8	23.5	21.7	23.2	22.2	20.5	20.6	19.8	20.6	18.1	19.4	19.3	17.9	16.7	18.2	18.1	20.8	+2.7s
College Plans:																						
None or under 4 yrs.	—	36.5	37.2	35.2	33.8	29.7	29.3	29.5	29.3	27.2	29.6	28.2	29.0	27.4	27.9	28.3	28.4	28.1	27.8	29.8	33.7	+3.9s
Complete 4 yrs.	—	19.8	19.3	18.3	17.0	13.8	12.9	13.2	13.8	11.9	12.4	12.8	13.3	13.4	14.6	14.7	14.1	12.9	15.9	15.7	17.4	+1.7
Region:																						
Northeast	31.4	32.3	33.8	32.5	28.6	24.1	23.3	23.4	26.1	23.6	24.9	24.9	24.8	21.4	21.3	22.8	20.9	19.4	20.5	21.3	22.5	+1.2
North Central	28.6	30.2	29.4	28.6	27.0	22.0	23.0	24.0	23.4	20.4	22.4	19.9	20.3	19.0	23.0	22.2	23.0	19.0	21.3	23.8	25.7	+1.9
South	26.2	29.1	28.7	26.4	25.8	22.6	19.1	20.2	19.4	17.7	16.0	15.8	15.7	17.7	17.1	16.5	16.4	16.7	18.5	19.3	21.7	+2.4
West	17.3	19.4	19.2	19.1	17.0	14.0	13.1	12.7	13.0	12.4	14.2	13.4	14.9	14.0	13.8	14.8	13.9	13.3	13.0	12.4	14.5	+2.1
Population Density:																						
Large MSA	30.8	30.4	30.9	29.2	24.5	21.6	21.9	23.5	22.1	21.5	21.9	20.6	20.3	18.0	16.7	19.0	16.7	16.6	17.3	17.7	21.3	+3.6s
Other MSA	25.6	27.1	27.2	25.7	25.0	21.3	19.0	19.3	20.2	17.4	17.7	17.0	17.6	17.7	19.0	19.0	19.0	15.9	19.7	19.2	19.9	+0.7
Non-MSA	25.8	29.5	29.1	28.7	26.5	21.2	20.7	21.3	21.7	18.3	19.9	19.8	19.3	18.8	20.9	19.5	19.0	20.3	19.2	21.6	24.8	+3.2
Parental Education:[a]																						
1.0-2.0 (Low)	27.2	32.7	29.6	28.6	29.1	23.7	24.1	24.6	24.0	23.2	22.7	20.4	19.7	19.2	17.1	16.7	21.2	16.5	17.6	16.9	21.3	+4.4
2.5-3.0	27.2	31.3	31.5	30.3	26.5	24.7	22.5	23.1	23.2	21.5	21.8	21.4	21.1	19.6	21.5	21.0	19.8	20.4	20.2	22.4	24.6	+2.2
3.5-4.0	22.1	25.8	28.1	24.8	24.5	19.4	19.0	19.7	18.8	16.4	19.3	19.4	17.8	17.5	19.0	19.3	18.5	16.9	18.9	18.9	21.6	+2.7s
4.5-5.0	22.9	24.5	23.7	23.2	21.2	16.6	16.1	16.8	17.5	14.1	16.0	13.9	16.5	16.5	17.2	18.3	16.2	15.0	18.9	18.7	19.7	+1.0
5.5-6.0 (High)	17.4	22.8	21.7	22.8	20.6	15.0	13.9	14.5	17.2	14.1	11.2	13.6	16.6	15.1	15.8	16.5	16.1	12.8	16.6	17.3	18.5	+1.2
Race (2-year average):[b]																						
White	—	—	28.9	28.3	26.9	23.9	21.4	21.6	22.1	21.0	20.4	20.6	20.5	20.6	21.1	21.8	21.5	20.5	21.4	22.9	23.9	+1.0
Black	—	—	24.9	22.7	20.9	17.4	14.6	13.1	12.5	10.7	9.9	9.4	7.9	7.3	6.4	5.8	5.1	4.2	4.1	4.9	6.1	+1.2
Hispanic	—	—	22.6	20.4	15.8	12.8	13.6	14.3	14.9	13.9	11.8	11.3	11.0	10.9	10.8	10.9	11.5	12.5	11.8	10.6	11.6	+1.0

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
See Table D-40 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-33
Smokeless Tobacco: Trends in Thirty-Day Prevalence of Use by Subgroups for Eighth and Tenth Graders

Percent who used in last thirty days

	8th Grade						10th Grade					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Approx. N[a] =	17500	18600	18300	17300	17500		14800	14800	15300	15800	17000	
Total	6.9	7.0	6.6	7.7	7.1	-0.6	10.0	9.6	10.4	10.5	9.7	-0.8
Sex:												
Male	12.7	12.5	10.9	12.8	11.8	-1.0	18.7	18.1	19.3	19.2	17.2	-2.0
Female	1.4	2.0	2.7	2.4	2.9	+0.5	1.3	1.8	2.0	2.1	2.1	0.0
College Plans:												
None or under 4 yrs.	12.7	17.1	15.5	16.7	15.4	-1.3	16.9	17.5	20.2	19.9	20.3	+0.4
Complete 4 yrs.	6.1	5.5	5.3	6.5	6.0	-0.5	8.4	8.0	8.4	8.5	7.8	-0.7
Region:												
Northeast	5.0	4.9	3.4	6.1	5.4	-0.7	8.6	5.3	8.0	9.0	7.6	-1.4
North Central	7.1	7.5	7.2	7.1	7.6	+0.5	11.0	9.6	10.0	10.0	11.0	+1.0
South	9.5	9.3	8.0	9.9	8.7	-1.2	11.6	11.4	11.8	11.7	10.9	-0.8
West	3.5	4.4	6.3	6.0	5.0	-1.0	7.8	10.9	11.1	10.9	7.7	-3.2
Population Density:												
Large MSA	4.8	4.2	3.3	4.6	4.1	-0.5	5.9	6.4	6.5	6.2	5.9	-0.3
Other MSA	6.2	6.9	6.8	6.4	6.7	+0.3	9.2	9.3	10.1	10.9	9.2	-1.7
Non-MSA	10.4	10.3	9.9	13.0	11.2	-1.8	14.7	13.3	14.1	13.9	15.0	+1.1
Parental Education:[b]												
1.0-2.0 (Low)	11.4	7.8	9.4	8.9	10.6	+1.7	6.6	10.1	10.9	9.4	9.6	+0.2
2.5-3.0	8.4	8.5	7.5	8.4	9.9	+1.5	12.1	11.0	12.2	12.5	10.4	-2.1
3.5-4.0	6.7	7.0	7.5	8.7	7.0	-1.7	10.6	10.5	10.9	10.2	10.9	+0.7
4.5-5.0	4.8	7.0	5.2	6.1	5.0	-1.1	9.3	7.6	9.9	9.8	9.8	0.0
5.5-6.0 (High)	6.1	4.6	4.9	6.8	5.8	-1.0	8.6	8.1	7.0	8.9	6.0	-2.9
Race (2-year average):[c]												
White	—	8.3	8.0	8.1	8.9	+0.8	—	11.4	12.0	12.5	12.0	-0.5
Black	—	1.8	2.7	3.2	2.6	-0.6	—	2.9	2.3	2.3	2.5	+0.2
Hispanic	—	4.2	4.0	5.0	5.7	+0.7	—	6.2	6.1	4.3	3.6	-0.7

NOTES: Level of significance of difference between the two most recent classes: s =.05, ss =.01, sss =.001.
'—' indicates data not available.
See Table D-39 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

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[a] Data based on one of two forms; N is one-half of N indicated.

[b] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[c] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-34
Smokeless Tobacco: Trends in Thirty-Day Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last thirty days																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990[a]	Class of 1991[a]	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	—	—	—	—	—	—	—	—	—	—	—	11.5	11.3	10.3	8.4	—	—	11.4	10.7	11.1	12.2	+1.1
Sex:																						
Male	—	—	—	—	—	—	—	—	—	—	—	22.3	22.8	19.9	15.9	—	—	20.8	19.7	20.3	23.6	+3.3
Female	—	—	—	—	—	—	—	—	—	—	—	1.6	0.7	1.7	1.2	—	—	2.0	2.3	2.6	1.8	-0.8
College Plans:																						
None or under 4 yrs	—	—	—	—	—	—	—	—	—	—	—	14.5	15.5	13.1	9.6	—	—	18.0	14.9	15.8	18.7	+2.9
Complete 4 yrs	—	—	—	—	—	—	—	—	—	—	—	9.8	9.0	8.8	7.7	—	—	9.4	9.4	9.3	9.9	+0.6
Region:																						
Northeast	—	—	—	—	—	—	—	—	—	—	—	9.5	7.3	5.9	5.0	—	—	8.2	9.6	12.0	9.6	-2.4
North Central	—	—	—	—	—	—	—	—	—	—	—	13.5	11.3	10.8	8.3	—	—	12.3	13.6	14.7	16.7	+2.0
South	—	—	—	—	—	—	—	—	—	—	—	12.2	13.7	12.1	9.8	—	—	12.5	11.1	9.7	11.9	+2.2
West	—	—	—	—	—	—	—	—	—	—	—	9.3	11.7	10.9	9.1	—	—	11.1	7.0	8.5	8.6	+0.1
Population Density:																						
Large MSA	—	—	—	—	—	—	—	—	—	—	—	9.0	6.4	7.7	6.8	—	—	5.9	7.1	7.5	12.5	+5.0
Other MSA	—	—	—	—	—	—	—	—	—	—	—	8.9	10.5	8.5	7.6	—	—	11.1	9.9	11.3	9.5	-1.8
Non-MSA	—	—	—	—	—	—	—	—	—	—	—	17.1	17.5	16.1	11.7	—	—	16.9	15.0	14.7	16.7	+2.0
Parental Education:[b]																						
1.0-2.0 (Low)	—	—	—	—	—	—	—	—	—	—	—	8.6	11.7	10.7	5.3	—	—	14.9	7.0	12.3	9.8	-2.5
2.5-3.0	—	—	—	—	—	—	—	—	—	—	—	14.4	11.5	10.7	7.0	—	—	12.4	11.6	12.9	11.5	-1.4
3.5-4.0	—	—	—	—	—	—	—	—	—	—	—	11.5	12.1	10.6	9.0	—	—	12.4	10.8	9.8	12.8	+3.0
4.5-5.0	—	—	—	—	—	—	—	—	—	—	—	10.4	11.7	11.8	10.2	—	—	8.0	13.3	11.1	12.8	+1.7
5.5-6.0 (High)	—	—	—	—	—	—	—	—	—	—	—	7.7	8.1	7.2	8.4	—	—	10.6	7.8	10.2	11.6	+1.4
Race (2-year average):[c]																						
White	—	—	—	—	—	—	—	—	—	—	—	—	12.9	12.0	10.6	—	—	—	13.8	13.8	13.8	0.0
Black	—	—	—	—	—	—	—	—	—	—	—	—	2.1	4.5	4.5	—	—	—	2.0	1.9	2.1	+0.2
Hispanic	—	—	—	—	—	—	—	—	—	—	—	—	4.4	5.2	5.1	—	—	—	6.0	5.4	7.6	+2.2

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
See Table D-40 for the number of subgroup cases.
See Appendix B for definition of variables in table.
Data based on one of six forms; N is one-sixth of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Prevalence of smokeless tobacco was not asked of twelfth graders in 1990 and 1991. Prior to 1990 the prevalence question on smokeless tobacco was located near the end of one twelfth-grade questionnaire form, whereas after 1991 the question was placed earlier and in a different form. This shift could explain the discontinuities between the corresponding data.

[b] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[c] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

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TABLE D-35

Smokeless Tobacco: Trends in Thirty-Day Prevalence of Daily Use by Subgroups for Eighth and Tenth Graders

Percent who used daily in last thirty days

	8th Grade						10th Grade					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Approx. N[a] =	17500	18600	18300	17300	17500		14800	14800	15300	15800	17000	
Total	1.6	1.8	1.5	1.9	1.2	-0.7	3.3	3.0	3.3	3.0	2.7	-0.3
Sex:												
Male	3.1	3.4	2.9	3.2	2.2	-1.0	6.3	6.3	6.4	5.9	5.2	-0.7
Female	0.2	0.3	0.3	0.3	0.3	0.0	0.2	0.1	0.3	0.2	0.2	0.0
College Plans:												
None or under 4 yrs.	4.1	5.6	4.4	5.4	3.5	-1.9	7.6	8.5	8.8	6.5	7.8	+1.3
Complete 4 yrs.	1.2	1.2	1.1	1.4	0.9	-0.5	2.3	1.9	2.2	2.2	1.9	-0.3
Region:												
Northeast	1.2	0.9	0.6	0.8	0.6	-0.2	1.8	1.0	1.7	3.0	2.0	-1.0
North Central	1.5	1.6	1.6	1.4	1.1	-0.3	3.1	2.9	2.5	2.4	2.5	+0.1
South	2.4	3.0	2.2	3.3	1.8	-1.5	4.7	4.5	5.2	3.3	4.1	+0.8
West	0.6	0.8	1.0	0.9	0.8	-0.1	2.7	2.9	3.1	3.6	1.1	-2.5
Population Density:												
Large MSA	0.5	0.6	0.7	0.7	0.4	-0.3	1.5	1.6	1.1	1.0	1.5	+0.5
Other MSA	1.2	1.9	1.5	1.0	0.9	-0.1	3.1	2.8	3.2	3.5	2.3	-1.2
Non-MSA	3.3	2.8	2.5	4.6	2.6	-2.0	5.0	4.9	5.3	4.2	4.9	+0.7
Parental Education:[b]												
1.0-2.0 (Low)	2.8	3.5	2.0	3.0	2.2	-0.8	2.5	3.9	4.1	3.2	3.6	+0.4
2.5-3.0	2.2	2.6	1.9	2.7	1.7	-1.0	4.8	5.0	4.3	3.8	3.4	-0.4
3.5-4.0	1.4	1.2	1.8	1.9	1.2	-0.7	3.3	2.8	3.1	3.0	2.8	-0.2
4.5-5.0	0.8	1.3	1.1	1.1	0.9	-0.2	2.5	1.7	2.5	2.7	2.9	+0.2
5.5-6.0 (High)	1.0	0.9	0.6	0.7	0.8	+0.1	2.5	1.6	2.7	1.7	1.0	-0.7
Race (2-year average):[c]												
White	—	2.0	2.0	2.0	1.9	-0.1	—	3.8	3.9	3.8	3.3	-0.5
Black	—	0.3	0.4	0.7	0.6	-0.1	—	0.5	0.4	0.6	0.5	-0.1
Hispanic	—	0.8	0.9	0.9	0.7	-0.2	—	1.1	1.0	0.8	1.2	+0.4

NOTES: For all subgroups: Due to small sample sizes, tests of significance have not been performed.
'—' indicates data not available.
See Table D-39 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Data based on one of two forms; N is one-half of N indicated.

[b] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[c] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-36
Smokeless Tobacco: Trends in Thirty-Day Prevalence of Daily Use by Subgroups for Twelfth Graders

	Percent who used daily in last thirty days																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990^a	Class of 1991^a	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	—	—	—	—	—	—	—	—	—	—	—	4.7	5.1	4.3	3.3	—	—	4.3	3.3	3.9	3.6	-0.4
Sex:																						
Male	—	—	—	—	—	—	—	—	—	—	—	10.0	10.7	8.6	6.8	—	—	7.8	6.4	7.2	7.2	0.0
Female	—	—	—	—	—	—	—	—	—	—	—	0.1	0.1	0.5	0.0	—	—	0.5	0.4	0.3	0.1	-0.2
College Plans:																						
None or under 4 yrs.	—	—	—	—	—	—	—	—	—	—	—	7.1	7.8	5.8	4.2	—	—	7.4	4.3	6.6	6.5	-0.1
Complete 4 yrs.	—	—	—	—	—	—	—	—	—	—	—	3.3	3.7	3.5	2.7	—	—	3.3	3.1	2.8	2.7	-0.1
Region:																						
Northeast	—	—	—	—	—	—	—	—	—	—	—	4.6	2.1	2.3	1.3	—	—	1.8	1.9	4.5	2.2	-2.3
North Central	—	—	—	—	—	—	—	—	—	—	—	4.5	4.5	3.5	2.2	—	—	4.0	4.4	4.7	4.9	+0.2
South	—	—	—	—	—	—	—	—	—	—	—	6.1	7.4	6.3	4.2	—	—	5.4	4.0	3.5	4.2	+0.7
West	—	—	—	—	—	—	—	—	—	—	—	2.9	5.5	4.0	4.9	—	—	5.1	1.7	3.2	1.6	-1.6
Population Density:																						
Large MSA	—	—	—	—	—	—	—	—	—	—	—	3.4	3.3	3.0	3.0	—	—	2.0	1.7	2.0	2.1	+0.1
Other MSA	—	—	—	—	—	—	—	—	—	—	—	3.3	4.3	2.5	2.8	—	—	4.2	3.0	3.6	3.2	-0.4
Non-MSA	—	—	—	—	—	—	—	—	—	—	—	7.8	8.5	8.9	4.6	—	—	6.5	5.2	6.7	5.8	-0.9
Parental Education:^b																						
1.0-2.0 (Low)	—	—	—	—	—	—	—	—	—	—	—	1.9	5.6	5.3	1.8	—	—	6.7	3.9	6.6	2.7	-3.9
2.5-3.0	—	—	—	—	—	—	—	—	—	—	—	7.6	6.9	3.2	3.9	—	—	4.8	3.5	3.8	4.7	+0.9
3.5-4.0	—	—	—	—	—	—	—	—	—	—	—	3.5	4.7	5.4	3.1	—	—	5.2	3.3	3.3	2.9	-0.4
4.5-5.0	—	—	—	—	—	—	—	—	—	—	—	3.9	5.0	4.7	4.6	—	—	2.4	3.7	3.9	3.5	-0.4
5.5-6.0 (High)	—	—	—	—	—	—	—	—	—	—	—	3.3	2.1	3.5	1.2	—	—	2.6	1.8	2.7	2.7	0.0
Race (2-year average):^c																						
White	—	—	—	—	—	—	—	—	—	—	—	—	5.8	5.4	4.5	—	—	—	4.8	4.7	4.6	-0.1
Black	—	—	—	—	—	—	—	—	—	—	—	—	0.6	1.0	0.5	—	—	—	0.3	0.7	0.6	-0.1
Hispanic	—	—	—	—	—	—	—	—	—	—	—	—	0.8	2.1	2.1	—	—	—	1.6	0.7	1.2	+0.5

NOTES: For all subgroups: Due to small sample sizes, tests of significance have not been performed.
'—' indicates data not available.
See Table D-40 for the number of subgroup cases.
See Appendix B for definition of variables in table.
Data based on one of six forms; N is one-sixth of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Prevalence of smokeless tobacco was not asked of twelfth graders in 1990 and 1991. Prior to 1990 the prevalence question on smokeless tobacco was located near the end of one twelfth-grade questionnaire form, whereas after 1991 the question was placed earlier and in a different form. This shift could explain the discontinuities between the corresponding data.

[b] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[c] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

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TABLE D-37
Steroids: Trends in Annual Prevalence of Use by Subgroups for Eighth and Tenth Graders

	Percent who used in last twelve months											
	8th Grade						10th Grade					
	1991	1992	1993	1994	1995	'94–'95 change	1991	1992	1993	1994	1995	'94–'95 change
Approx. N =	17500	18600	18300	17300	17500		14800	14800	15300	15800	17000	
Total	1.0	1.1	0.9	1.2	1.0	-0.2	1.1	1.1	1.0	1.1	1.2	+0.1
Sex:												
Male	1.8	1.7	1.4	1.8	1.3	-0.5s	1.9	1.9	1.7	1.9	2.0	+0.1
Female	0.3	0.5	0.3	0.6	0.8	+0.2	0.3	0.3	0.3	0.4	0.5	+0.1
College Plans:												
None or under 4 yrs.	2.2	2.4	2.2	2.5	2.2	-0.3	1.7	1.8	1.9	2.1	2.1	0.0
Complete 4 yrs.	0.8	0.9	0.7	1.0	0.9	-0.1	0.9	1.0	0.8	0.9	1.1	+0.2
Region:												
Northeast	0.7	1.1	0.6	1.0	1.0	0.0	1.2	0.9	1.0	1.0	1.1	+0.1
North Central	1.1	1.2	1.0	1.0	1.1	+0.1	1.0	1.1	1.2	1.1	1.2	+0.1
South	1.2	1.1	1.0	1.6	1.1	-0.5s	1.0	1.2	1.0	1.3	1.3	0.0
West	0.7	0.9	0.7	1.0	1.0	0.0	1.0	1.2	0.8	1.1	1.3	+0.2
Population Density:												
Large MSA	0.8	1.0	0.8	0.9	0.9	0.0	1.5	0.9	0.8	0.8	0.8	0.0
Other MSA	1.2	1.2	0.9	1.2	1.2	0.0	1.0	1.0	0.9	1.1	1.4	+0.3
Non-MSA	1.0	0.9	0.9	1.5	0.9	-0.6s	0.8	1.4	1.4	1.5	1.4	-0.1
Parental Education:[a]												
1.0-2.0 (Low)	1.8	1.2	1.2	1.6	1.3	-0.3	0.7	0.9	1.5	1.8	1.2	-0.6
2.5-3.0	1.1	1.2	0.8	1.6	1.3	-0.3	1.3	1.1	1.0	0.9	1.1	+0.2
3.5-4.0	1.0	1.0	1.1	1.3	0.8	-0.5	1.0	1.2	1.1	0.8	1.6	+0.8sss
4.5-5.0	0.7	0.9	0.8	0.8	0.8	0.0	0.9	1.0	0.8	1.4	1.1	-0.3
5.5-6.0 (High)	1.0	1.3	0.6	0.9	1.5	+0.6	1.2	1.4	1.1	1.1	1.0	-0.1
Race (2-year average):[b]												
White	—	1.1	1.0	1.0	1.1	+0.1	—	1.0	1.0	1.0	1.2	+0.2
Black	—	0.7	0.6	0.8	0.9	+0.1	—	0.7	0.8	0.8	0.7	-0.1
Hispanic	—	1.2	1.1	1.1	1.3	+0.2	—	1.2	1.4	1.3	0.9	-0.4

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
'—' indicates data not available.
See Table D-39 for the number of subgroup cases.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-38
Steroids: Trends in Annual Prevalence of Use by Subgroups for Twelfth Graders

	Percent who used in last twelve months																					
	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995	'94–'95 change
Approx. N =	9400	15400	17100	17800	15500	15900	17500	17700	16300	15900	16000	15200	16300	16300	16700	15200	15000	15800	16300	15400	15400	
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.9	1.7	1.4	1.1	1.2	1.3	1.5	+0.2
Sex:																						
Male	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.8	2.6	2.4	2.1	2.5	2.1	2.4	+0.3
Female	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.9	0.3	0.2	0.1	0.1	0.5	0.6	+0.1
College Plans:																						
None or under 4 yrs.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.3	2.2	2.1	2.1	2.0	1.9	2.0	+0.1
Complete 4 yrs.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6	1.3	1.2	0.8	0.9	1.1	1.2	+0.1
Region:																						
Northeast	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.0	1.3	1.2	0.6	1.5	1.5	1.6	+0.1
North Central	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.5	1.3	1.4	1.4	0.8	2.2	1.5	-0.7
South	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.1	2.2	1.7	0.6	1.6	1.0	1.7	+0.7
West	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.9	1.7	1.0	2.3	1.1	0.8	1.0	+0.2
Population Density:																						
Large MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6	1.3	1.1	1.0	0.7	1.1	1.4	+0.3
Other MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.3	1.5	1.4	1.4	0.9	1.5	1.3	-0.2
Non-MSA	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.1	2.4	1.6	0.8	2.2	1.3	2.1	+0.8
Parental Education:[a]																						
1.0-2.0 (Low)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.6	1.1	2.0	2.1	1.1	2.8	1.1	-1.7
2.5-3.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.1	2.0	0.6	0.9	1.3	1.7	1.3	-0.4
3.5-4.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.6	2.3	1.6	1.3	1.5	1.1	1.1	0.0
4.5-5.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.3	1.1	1.6	0.9	1.3	0.6	2.0	+1.4ss
5.5-6.0 (High)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.1	1.0	0.5	0.8	0.8	1.2	1.4	+0.2
Race (2-year average):[b]																						
White	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6	1.3	1.3	1.2	1.1	1.4	+0.3
Black	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.8	1.2	0.6	1.1	1.8	1.2	-0.6
Hispanic	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.3	3.3	1.8	0.9	1.7	1.3	-0.4

NOTES: Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available.
See Table D-40 for the number of subgroup cases.
See Appendix B for definition of variables in table.
Data based on one of six forms in 1989-90; N is one-sixth of N indicated. Data based on two of six forms in 1991-95; N is two-sixths of N indicated.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Parental education is an average score of mother's education and father's education. See Appendix B for details.

[b] To derive percentages for each racial subgroup, data for the specified year *and* the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-39
Approximate Weighted Ns by Subgroups for Eighth and Tenth Graders

	8th Grade					10th Grade				
	1991	1992	1993	1994	1995	1991	1992	1993	1994	1995
Total	17,500	18,600	18,300	17,300	17,500	14,800	14,800	15,300	15,800	17,000
Sex:										
Male	8,600	8,800	8,600	8,300	8,100	7,200	7,000	7,300	7,700	8,300
Female	8,600	9,300	9,200	8,600	8,700	7,400	7,400	7,800	7,900	8,400
College Plans:										
None or under 4 yrs.	2,300	2,400	2,100	2,000	1,900	2,600	2,400	2,500	2,700	2,500
Complete 4 yrs.	14,600	15,400	15,400	14,700	14,800	11,900	12,000	12,400	12,800	14,200
Region:										
Northeast	3,000	3,700	3,900	3,400	3,100	2,700	3,000	2,900	3,100	3,300
North Central	5,300	5,300	4,700	4,200	4,300	3,700	3,800	4,800	4,700	4,400
South	6,300	6,200	6,400	6,300	6,600	4,900	5,000	4,900	5,200	6,100
West	2,900	3,400	3,300	3,400	3,500	3,500	3,000	2,700	2,800	3,200
Population Density:										
Large MSA	4,500	5,700	5,500	4,400	5,200	3,400	3,700	3,500	4,100	4,700
Other MSA	8,400	8,300	8,800	8,300	7,800	7,400	7,300	7,600	7,500	8,200
Non-MSA	4,600	4,600	4,000	4,600	4,500	4,000	3,800	4,200	4,200	4,100
Parental Education:										
1.0-2.0 (Low)	1,400	1,700	1,700	1,600	1,500	1,300	1,300	1,300	1,300	1,200
2.5-3.0	4,400	4,600	4,500	4,100	3,900	3,900	3,900	4,100	4,100	4,100
3.5-4.0	4,100	4,300	4,300	4,200	4,000	3,900	3,900	4,100	4,300	4,600
4.5-5.0	4,100	4,100	4,100	3,900	3,900	3,500	3,400	3,500	3,700	4,000
5.5-6.0 (High)	2,200	2,300	2,300	2,200	2,300	1,800	1,700	1,700	1,800	2,300
Race (2-year average):[a]										
White	—	21,900	22,000	20,900	19,800	—	19,600	20,700	22,000	22,900
Black	—	4,200	4,800	5,500	5,600	—	3,900	3,600	3,300	3,300
Hispanic	—	3,400	3,600	4,000	4,000	—	2,600	2,700	2,800	2,900

NOTES: '—' indicates data not available.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

[a] Ns for each racial subgroup represent the combination of the specified year *and* the previous year. Data have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-40
Approximate Weighted Ns by Subgroups for Twelfth Graders

	Class of 1975	Class of 1976	Class of 1977	Class of 1978	Class of 1979	Class of 1980	Class of 1981	Class of 1982	Class of 1983	Class of 1984	Class of 1985	Class of 1986	Class of 1987	Class of 1988	Class of 1989	Class of 1990	Class of 1991	Class of 1992	Class of 1993	Class of 1994	Class of 1995
Total	9,400	15,400	17,100	17,800	15,500	15,900	17,500	17,700	16,300	15,900	16,000	15,200	16,300	16,300	16,700	15,200	15,000	15,800	16,300	15,400	15,400
Sex:																					
Male	4,300	6,900	7,100	8,500	7,500	7,500	8,400	8,500	7,800	7,600	7,600	7,100	7,700	7,700	8,000	7,700	7,400	7,400	7,500	6,900	7,200
Female	5,200	7,000	7,600	9,000	8,000	7,800	8,600	8,600	8,000	7,800	8,000	7,700	8,200	8,200	8,300	7,100	7,200	7,900	8,200	8,000	7,800
College Plans:																					
None or under 4 yrs	—	6,500	6,700	8,100	6,800	6,300	6,700	7,200	6,300	5,900	5,600	5,100	5,000	4,700	4,800	4,200	4,000	3,700	3,700	3,400	3,300
Complete 4 yrs	—	6,800	7,200	8,600	8,000	8,500	9,700	9,200	8,800	8,900	9,300	9,100	10,300	10,600	11,000	10,100	10,300	11,200	11,600	11,100	11,200
Region:																					
Northeast	2,200	3,400	3,700	4,400	3,800	3,600	4,100	4,600	3,900	3,200	3,700	3,600	3,500	3,200	3,200	3,300	2,800	2,800	2,700	2,700	2,800
North Central	2,900	4,500	4,600	5,200	4,800	4,700	5,300	5,200	4,600	4,500	4,400	4,300	4,400	4,300	4,500	4,200	4,000	4,400	4,600	4,000	4,300
South	3,000	4,300	4,600	6,000	4,800	4,800	5,300	5,300	5,200	5,300	4,900	4,700	5,200	5,600	6,100	5,000	5,100	5,600	5,800	5,700	5,400
West	1,400	2,200	2,200	2,500	2,600	2,700	2,800	2,600	2,600	2,900	3,000	2,600	3,200	3,200	2,900	2,700	3,100	3,000	3,200	3,000	2,900
Population Density:																					
Large MSA	2,100	3,700	4,000	4,600	4,000	3,900	4,500	4,800	4,200	4,100	4,200	3,700	4,200	4,400	4,000	3,800	3,600	3,600	3,700	4,300	4,400
Other MSA	4,000	5,700	6,200	8,000	6,800	6,700	7,100	7,300	6,800	6,900	6,900	7,000	8,000	7,700	8,800	7,700	7,200	8,200	7,800	7,100	7,000
Non-MSA	3,400	5,000	4,900	5,500	5,200	5,200	5,900	5,600	5,300	4,900	4,900	4,500	4,100	4,200	3,900	3,700	4,200	4,000	4,800	4,000	4,000
Parental Education:																					
1.0-2.0 (Low)	1,700	2,200	2,600	3,100	2,500	2,300	2,400	2,700	2,200	1,900	1,800	1,800	1,700	1,600	1,700	1,600	1,500	1,400	1,600	1,400	1,200
2.5-3.0	3,000	4,300	5,400	6,200	5,600	5,300	5,800	5,900	5,500	5,100	5,100	4,600	4,500	4,500	4,600	4,300	4,100	4,100	4,300	3,700	3,700
3.5-4.0	1,600	2,500	3,200	4,000	3,600	3,600	4,200	4,200	3,900	4,000	4,000	3,800	4,300	4,400	4,500	4,100	4,200	4,600	4,500	4,300	4,400
4.5-5.0	1,100	1,600	2,200	2,800	2,600	2,700	3,100	2,900	2,800	2,900	3,000	2,900	3,400	3,500	3,500	3,100	3,100	3,400	3,600	3,500	3,700
5.5-6.0 (High)	440	710	1,100	1,200	1,200	1,300	1,500	1,300	1,200	1,400	1,500	1,500	1,800	1,900	1,700	1,600	1,500	1,700	1,700	1,800	1,800
Race (2-year average):*																					
White	—	—	23,400	26,500	27,500	25,600	26,300	27,300	26,200	24,700	24,200	23,600	23,800	24,200	24,000	23,400	21,900	21,500	22,000	21,800	21,600
Black	—	—	3,300	3,700	3,500	3,500	4,000	4,000	3,900	4,000	4,000	3,500	3,200	3,600	3,900	3,500	3,200	3,900	4,200	3,600	3,300
Hispanic	—	—	890	1,000	940	740	930	1,300	1,300	1,200	1,200	1,500	1,900	2,100	2,400	2,500	2,400	2,600	2,900	3,100	2,700

NOTES: '—' indicates data not available.
See Appendix B for definition of variables in table.

SOURCE: The Monitoring the Future Study, the University of Michigan.

*Ns for each racial subgroup represent the combination of the specified year *and* the previous year. Data have been combined to increase subgroup sample sizes and thus provide more stable estimates.

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